BRANDON UNIVERSITY

Bright Futures: Student Research at Brandon University

RESEARCH CONNECTION

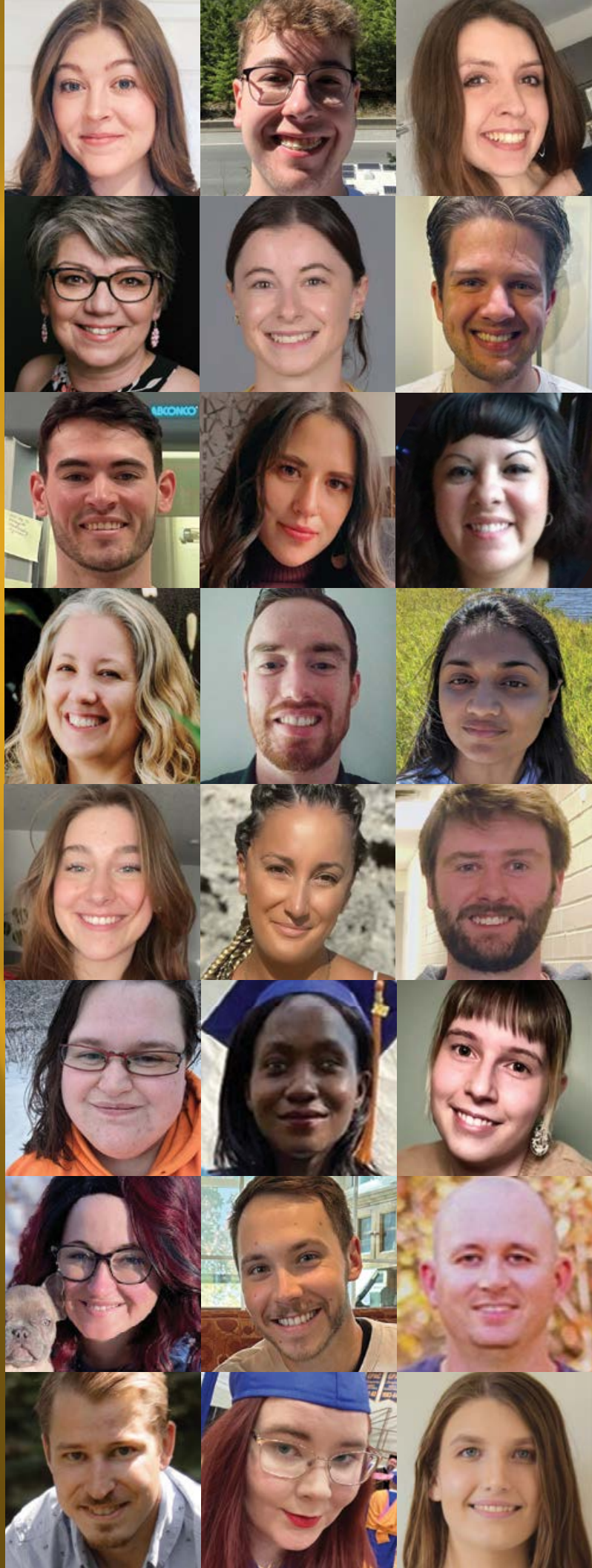


Table of Contents

Rising Stars of Research

As Canada's Finest Regional University, Brandon University is both shaped by, and a key contributor to, its Manitoba home.

With its main campus in Brandon, on Treaty 2 territory, and a satellite campus in Winnipeg, on Treaty 1 land, BU is committed to sharing knowledge with the communities it serves, as well as accepting with humility the knowledge that is, in turn, shared with us. Many research projects at BU are born from the issues that members of the BU community see each day in their lives. But research at BU is not limited to the immediate surroundings. This humble prairie community is also home to a large and growing contingent of students who come to BU from across Canada and around the world to pursue the personalized education and outstanding research opportunities the university is known for. Each of these students, and the committed faculty members who guide them, bring their own perspectives, specialties and questions, providing an endless array of research opportunities.

While graduate programs are growing at BU, the university remains a predominantly undergraduate institution. While this impacts the type of research done at BU, it in no way limits the ambition or the impact of the work. In fact, for many students this makes BU an ideal starting point for their research and professional careers.

We hope you enjoy reading about these research stars of tomorrow as they prepare for their bright futures.

Many of the students have published research. See Page 56 for more information about their publications.

About *Research Connection*

These stories of Brandon University student research are inspired by and based on Research Connection, a periodical publication intended to provide information about the impact of Brandon University's academic research, creative activities and expertise. Research Connection highlights BU research using a regular structure and clear language. Research Connection is supported by the Office of Research Services and by the Centre for Applied Research and Education in Indigenous, Rural and Remote Settings. A special thank-you goes out to the Research Support Fund (RSF) for its continued assistance. Many of the summaries presented in this booklet represent ongoing research, and there are always new findings to report. Find more online at BrandonU.ca/Research-Connection.

Research Ethics at Brandon University

Brandon University is committed to maintaining the highest standards of research ethics for all research activities involving animals, human participants and the secondary use of identifiable information. For research activities involving animals the Brandon University Animal Care Committee follows the guidelines of the Canadian Council on Animal Care that require that all teaching, research and demonstrations involving animals, receive prior approval before being implemented. For human research projects, the Brandon University Research Ethics Committee follows Tri-Agency guidelines requiring that BU review and approve any research involving humans or the use of identifiable personal information before any data collection can begin. BU also has a number of its own policies governing research. See BrandonU.ca/Research for more information.

Students as Remarkable as the Research

There is a lot to love about serving as President of Brandon University.

One of my greatest pleasures is the opportunity to get to know our incredible students. In fact, one of my favourite things to do, when my schedule allows, is to take my laptop to our campus coffee shop, catch up on my email, and chat with students I meet there. The stories I hear are incredible. Each and every one of our students has their own background, their own interests and dreams, and the work that they are doing in their classes and with their professors is absolutely astounding. That's why I am so delighted to share with you a small sampling of the remarkable students who make up Brandon University, as well as the research projects they are engaged in. The beauty of this issue of Research Connection is that it not only allows us to get to learn about the research, but also to get to know the students behind it. I've had the honour of meeting several of these students already, while others I am learning about for the first time through this collection, and I'm absolutely blown away!

The variety and reach of these projects is remarkable. I've learned so much from these stories, and they only scratch the surface of the discoveries that our students are making. It's fascinating to read about the genesis of their ideas and how they are shaped by their backgrounds and their experiences. At the same time, it is also interesting to see the similarities that bind many of these stories together. It is heartening to see the kind of support and inspiration that these students are receiving from their faculty supervisors and their peers. Having gotten to know so many of our faculty members, staff and students over the years, I'm not surprised by the nurturing environment they have developed, but it is rewarding to see it so clearly illustrated by these stories. Clearly, we're doing something right.

I know you are going to enjoy reading these features as well. They are a fitting tribute to our students, our faculty and the dedicated staff of our Office of Research Services, who make this outstanding work possible.

Our world faces many daunting challenges right now. It's easy to get caught up in the negativity and divisive rhetoric that have become commonplace. However, when I read about these students, I'm comforted and renewed by the knowledge and the leadership that I see in our future. These truly are remarkable people, and I'm excited about all they will accomplish based on what they already have achieved here at BU.

DR. DAVID DOCHERTY

President, Brandon University

Developing Research Skills

Mentoring students and fostering their research at the graduate and undergraduate levels is one of the areas in which Brandon University faculty excel. Recognizing that not only do universities promote academic learning but they also develop student skills and competencies that guide future endeavours, this year's Research Connection magazine focuses on the research our students are doing, what they've learned from the process, and how it has benefitted them.

Participating in research as students has many benefits. They develop an understanding of the research process; work on solving problems; learn laboratory techniques and processes; become aware of ethical practice when working with human participants; develop interview techniques, and collect and analyze data. That's on the academic side. However, students also learn about themselves; how to overcome obstacles; how to persevere when things don't go to plan; how to work independently as well as teamwork. These endeavours build confidence and often clarify future career paths.

Featured in this edition are 24 Brandon University graduate and undergraduate students. Many of the students have already published their research in academic journals. Each faculty and school are represented. The student research topics are varied and multi-disciplinary. Some pertain to Manitoba and others have a more global perspective, reaching as far as the stars!

As you read the students' research stories, I hope you will learn a lot about the many facets of research, the students' accomplishments, as well as the challenges they have overcome. The students all acknowledge the valuable mentorship they have received from Brandon University faculty and the opportunities to participate in research that a small research-intensive university provides. At the end of this magazine, you will see a summary of the research funding our faculty receives and I'm sure you will agree that Brandon University punches above its weight.

As always, Brandon University is very appreciative of the support it receives from its many donors. Giving to student research is one way that your gift goes on giving as it helps develop a future generation of researchers. At BU, we are building a campus-wide culture of student research. We recognize that student research happens when the entire community believes that universities do more than impart knowledge. Student research empowers students to become critical thinkers, owners of their learning, and active and engaged citizens and future leaders.

Our Research Connection team comprises Christiane Ramsey, Kerry Murkin, Rob Henderson, Grant Hamilton, Michelle Lam, and Heather Duncan. While we have all played a role in preparing the student stories for publication, the lion's share of the work has been done by Christiane Ramsey who conducted extensive interviews with each of the 25 students and who has kept us all on track with our progress. So, thank you, Christiane!

Heather E Duncan

DR. HEATHER DUNCAN

Associate Vice-President Research, Brandon University

Student voices

> “I really enjoy being at a school that is so personal. Most courses have **small class sizes, ample opportunities in research/field work, and professors that provide a high level of support and guidance.** BU provides a unique experience that many other places cannot match. ”

Although a small school, BU offers so many opportunities to pursue your interests and passions.

I am grateful for my time and experience at Brandon University. I feel like the program is rooting for you the entire way and is set up to succeed.

Connecting with students who are now friends, being able to study through the most difficult courses together, and finding out I was not alone in my journey, really made a difference, and more often than not, it was fun.

I can really say that coming here has changed my life in a way that allowed me to grow and flourish and that will help me for my future. I am very grateful for that, and I hope that other people who come here will experience that as well.

I am forever grateful for the Indigenous Peoples' Centre, which has provided me with a space that makes me feel like I belong.

For someone like an undergrad, getting involved in the labs, somewhere like here, where there aren't master's and PhD students or postdocs ahead of you, you get to do more.

BU had everything I was looking for. It was in the same city as my friends and family, as well as having a great physics department. BU is truly a great school with incredible opportunities for its students.

Nobody in the lab saw my learning disability as a hindrance, which is a huge thing. It really helped a lot with my confidence. At BU, I found the wonderful people I call friends and family.

I had overwhelmingly positive experiences in my classes and working with my professors. Also, BU's co-op program tremendously influenced my academic and professional career.

They have always been great to me, and everyone there is nothing but supportive. I would highly recommend the university to anyone thinking about post-secondary education.

I have always been a fan of Brandon University due to its smaller class sizes, its location in the city I call home, and the diverse and extremely knowledgeable professors and support staff within the various faculties. BU has the right people.

I have had an exceptional experience at BU both in my undergraduate and graduate studies. All faculty are approachable and always make time to listen, guide and support you in your studies. They are flexible and understanding and meet students where they are able to help them progress and reach their goals.

I had a really great and positive experience at BU. I think BU just gives you an opportunity to grow.

What I appreciate about BU is that there is a very real movement to keep the sense of community going. BU is relatively small, and its strength is that size. With that, it's easy to make and maintain the connections you made in your time on campus.

There's trust that you can approach people and that they have your best interests in mind. And that is a very safe community to be in.

My experience at Brandon University has been amazing! I have a lot of fond memories of visiting the campus early on in the program for the in-person sessions at the beginning of the year.

I have appreciated all of my professors and feel that being a student at BU is smooth and seamless. Having been a student at other larger universities, sometimes you felt like a nameless number, and there could be a lot of difficulties with registering, getting support from the different departments. I have never had any issues as a student at BU.

> "Playing my favourite sport at the highest level, **finding my passion in research and connecting with professors and other students** with similar interests is something I will take with me throughout my academic and life journey."

I will always look back at my time here fondly, as it gave me many opportunities to learn and gain hands-on experience conducting research.

It has been impactful, unforgettable, and humbling. I have graduated, and I am very happy to have studied at such an institution.

My teachers always had insightful comments and great advice for me! I encourage any and all students to keep BU on top of their list.

I know a lot of my buddies from high school who are at big universities, and they don't even talk to any of their professors, they only listen to them in class.

ABBY PETERSEN

Music

Book research builds band appreciation

Growing up in Rocky Mountain House, a small town in Central Alberta, Abby has always had a passion for music. She has enjoyed playing in band since she was 11 years old, playing oboe in her school concert band and tenor sax in the jazz band. She shares, "I always felt at home in the band room. In grade twelve I realized that no matter what I did after high school, music would need to be a large part of my life, and so I decided to pursue music education."

So why did Abby choose to study at Brandon University? BU's music program is well known across Canada for its excellence, and its graduates recognize the quality of its programs. Abby's band teachers in middle and high school attended Brandon University and encouraged her to audition for the BU program. Abby adds, "I am so glad that they did! Coming to university made me realize just how much I valued the wind band as an ensemble, and how much of an impact it has made on my life."

Abby is now finishing her fifth and final year at Brandon University in the Concurrent Music Education degree program and, under the supervision of Dr. Wendy Zander, Abby is working on writing a book about Eugene Migliaro Corporon's recording process for wind ensembles. Professor Corporon has conducted the Cincinnati Wind Symphony, Showa Wind Symphony, and the North Texas Wind Symphony (UNTWS), among many other ensembles, recordings of which can be found on the Klavier and GIA labels, to name a few. Many of these recordings are part of the *Teaching Music Through Performance in Band* series (published by GIA), which is a series of books and companion resource recordings that are a valuable resource for beginning band directors and professional band directors alike. Abby's main tasks in this research so far have been scanning all the album booklets in Professor Corporon's discography, taking information such as repertoire performed, composers of the repertoire, ensemble members, support staff, and tech information from

each album, coding into sections such as “score study,“ “rehearsal process,” and “conducting,” and organizing these data into searchable databases.

Abby values the opportunity as an undergraduate student to be involved in research. She explains, “Working on this project has not only made my passion for wind band grow, but it has also brought a deeper level of meaning and understanding of the material in classes that I take. I have a great appreciation for those who dedicate their time to researching and documenting the history of wind ensembles and advocating for their place in the musical landscape today, all the while giving band teachers the resources they need to keep the medium thriving.”

The most satisfying part of the research project for Abby was collating all the data and seeing the impact of a single person on the wind band recording process. One highlight was meeting Professor Corporon and many other musicians at the University of North Texas.

Nearing the end of her studies at BU, Abby’s advice to incoming students is, “You never know where one experience could lead you, so take every opportunity that comes your way, and do the best job that you can.” As role models, Abby identifies her mom, who has always encouraged her to work hard and do the best she can in all areas of her life and Dr. Wendy Zander, whose work ethic is an inspiration to her.

So, what does the future hold for Abby? She is looking forward to teaching middle or high school band and to pursuing a master’s degree in music education after gaining experience teaching. And, sometime in the future, she would like to teach abroad.

Abby Petersen with
Professor Eugene Migliaro Corporon

JOSH BROOME

Chemistry

Drumming up solutions to CO_2 emissions

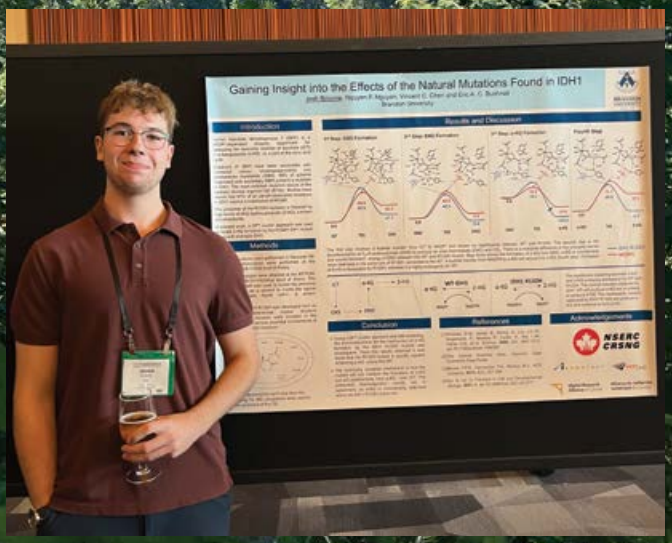
Josh Broome has lived in Brandon and, like many on the prairies, grew up playing some form of hockey and volleyball. However, music was also a large part of his middle and high school life. While playing oboe and clarinet, it was drumming that he enjoyed most.

After graduating from high school, he knew he wanted to focus his university studies on chemistry or biology. Brandon University was his choice because it was close to home, close to family and friends, and allowed him to continue with the volunteer work he enjoys with the Humane Society and St. John Ambulance.

His studies at BU — a full course load plus labs — have placed high demands on his time, yet although he is no longer part of a band, he still finds time for music, and he says, "Some days I will sit down and just drum for a couple of hours."

In his 4th year now, with a major in chemistry and a minor in biology/math, Josh has also worked on research for the past two years, mentored by Dr. Eric Bushnell. Initially, having just completed his first year, Josh was worried about his knowledge level, but Dr. Bushnell put his mind at ease. Josh notes, "Dr. Bushnell said, 'Don't worry about it; that's what I'm here for. I'll teach you everything.' Dr. Eric Bushnell definitely made it less scary!"

The research Josh has been working on is very topical. He notes, "CO_2 emissions and global warming. I guess that is what everyone is talking about." One of the possibilities for replacing fossil fuels is hydrogen in the form of hydrogen fuel cells. The main benefit of utilizing hydrogen (H_2) is that the by-product that is formed is water, so it is very clean for the environment. However, to form hydrogen first involves splitting water molecules into their two components, hydrogen (H_2) and oxygen (O_2). Modern approaches to producing H_2 require vast amounts of electricity and still produce carbon dioxide (CO_2) as a by-product. The cleanest way to produce H_2 is through a process known as electrolysis. By placing water in a vessel and passing an electric current through it, H_2 and O_2 can be produced. Currently, the amount of energy required for this process far outweighs



the benefits. Thus, Josh and the BU research team have been working on predicting the suitability of various homogenous photocatalysts, materials that speed up reactions with the aid of sunlight, to split water molecules. As a seasoned research assistant, Josh now mentors new students who are joining the lab team.

Working in the lab has been a valuable learning process for Josh. He notes, "At BU, I was able to get a grasp of what research actually is. Before I began my research under Dr. Bushnell, I was quite unsure of how the process worked. There is a lot more to it than I initially thought. Whether you are reading, writing, experimenting, or talking with other researchers, there is always something that you can be doing for your research." Josh also observed that the research is not always straightforward, "Some days, many things go perfectly, and everything is working. Then, out of the blue, something will go wrong, and fixing it can be incredibly infuriating."

Josh is proud of what he has accomplished as an undergraduate researcher, noting, "I feel I have accomplished some sizeable feats!" He has learned about computational chemistry and the theory behind it, co-authored an academic paper, and was awarded the best poster presentation in the physical/computational/theoretical division at the 2022 CCCE, the Canadian Chemistry Conference and Exhibition, in Calgary. Josh explains, "This division was comprised of hundreds of different individuals, where most of them were either in a graduate program or were professors. The fact that I was able to wow the judges enough as an undergraduate to win an award gave me a massive boost in confidence when it came to future presentations."

So, what are Josh's plans after he graduates from Brandon University in 2024? He plans on attending medical school as well as joining the Armed Forces. As an army doctor, Josh wants to use his skills to treat people who risk their lives for our country. While acknowledging his plans may change, Josh says, "I want to do something different from the mainstream route of being a doctor — travel the world to help whoever needs it. I have been in Brandon for 20 years; now I kind of want to move around."

SHELBY PELLERIN (DOELL)

Psychology

Early research opportunities build graduate program confidence

Shelby Pellerin (Doell) is a true prairie woman. She has lived in Alberta, Saskatchewan and Manitoba and cherishes rural life and relaxed ways of being. She came to Manitoba in 2018 to study psychology at Brandon University in pursuit of affordable tuition and an interest in counselling Canadian Armed Forces (CAF) members.

Shelby is a military spouse living in CFB Shilo. She met her husband during the COVID-19 pandemic in May 2020 and they married in April 2021. Shelby has held four research assistant (RA) positions at BU—in Health Studies, Educational Psychology, and Geography in various roles, conducting literature reviews, writing reports, data transcription and quantitative analysis. Although now a BU alumna, having graduated with a Bachelor of Science Honours degree in 2022 and enrolled in the Master of Arts program in Counselling at Yorkville University, Shelby maintains her ties with BU as a research assistant with Dr. Rachel Herron in the Centre for Critical Studies and Rural Mental Health (CCSRMH).

Shelby credits Dr. Nancy Newall for introducing her to psychology research in the area of long-term care and dementia and RA opportunities with the Centre for Critical Studies and Rural Mental Health. She appreciates how Dr. Shannon Gadbois, her undergraduate thesis supervisor, challenged her in academic writing and notes, "Through her multitude of revisions, I have observed how her attention to detail has prepared me both for the research field and for graduate studies."

Shelby has worked with Dr. Herron on two research projects; the first in 2021 during the pandemic, explored healthcare workers and mental health, and the second and current project, is a five-year study, *Safe Places for Aging in Care*. The first study, *Rural Healthcare Workers Mental Health & Wellbeing*, collected interview and survey data from healthcare workers. With much experience in statistics during her psychology degree, Shelby's role was mainly quantitative data analysis using Excel for descriptive statistics and SPSS (Statistical Package for the Social

Sciences) for hierarchical multiple regression and linear regression analyses, as well as correlational analyses. She also worked on coding qualitative interview data. Shelby joined Dr. Herron's project team on the *Safe Places for Aging in Care* study during its second phase, which involved surveys and interviews of care facility staff, older adults, and families in Manitoba and Nova Scotia. Shelby has worked on transcription, primarily doing coding and descriptive and inferential statistical analyses. Additionally, Shelby has been involved in observations in adult care facilities in Manitoba, where she notes the dynamics that are taking place. Shelby appreciates the opportunities Dr. Herron provided her to develop her quantitative and qualitative analysis skillsets and her ongoing mentorship. She points out, "She [Dr. Herron] is incredibly encouraging. She has believed in my developing skillsets

©istockphoto by miodrag ignjatovic

and supported my research journey through renewed contracts. What I admire most about her is her humility and that she is willing to learn from students and peers. There is that willingness to keep learning. I really enjoy how she models this."

Now in a graduate program at Yorkville University, Shelby reflects on her learning as a research assistant at BU: "Coupled with my undergraduate thesis experience, understanding the process of research minimizes my anxiety in graduate studies as I am less intimidated in writing papers and research terminology. Participating in research work also supports networking beyond the undergraduate level."

What does the future hold for Shelby? She would like to pursue a career in the counselling profession with populations such as CAF members/families, first responders, and older adults. Her goal is to be licensed through the Canadian Counselling and Psychotherapy Association (CCPA) as a Certified Canadian Counsellor (CCC) to prepare for future military postings across Canada, beginning by serving in community organizations and eventually creating her own private practice.

VALERIE McINNES

Education

What is keeping teachers in the profession?

A wife, mother, and grandmother, Valerie McInnes was born and raised in Portage la Prairie and now resides in Dauphin, where she plays an active role in many different areas. Valerie states, "I have a strong passion for service to my community," which is evident in the numerous local organizations in which she is active, for example, her church, the Dauphin and District Community Foundation, the Dauphin Economic Development Committee, the Dauphin Neighborhood Renewal Corporation Advisory Board and the Assiniboine Community College Indigenous Advisory Circle.

Valerie's career in education has spanned over three decades, during which time she has held various positions in public and Indigenous schools – classroom teacher, resource teacher, guidance counsellor and administrator, as well as most recently working in post-secondary education. She is currently the Earth Lodge Keeper for the Anishinaabe Nation in Treaty 2 Territory.

When Brandon University set up a Master of Education cohort in Dauphin, Valerie enrolled and is now nearing completion of her degree. Valerie's interest in research was stimulated when she accepted a Research Assistant IV position with the Brandon University Centre for Applied Research and Education in Indigenous, Rural, and Remote Settings (BU CARES). She reflects, "I enjoyed working with participants and gathering the information to support our work."

The topic of Valerie's master's thesis is: What is keeping teachers in the profession? The focus of her research is exploring the factors that influence early service educators' decisions to stay in the teaching profession as well as the impact that educational leadership in a school may have on

these decisions. Having spent six years as an administrator serving two different elementary schools in the Parkland area, Valerie saw many teachers transfer in and out. She explains, "Throughout my career, I saw many teachers come and go. I was always interested in what impacted these decisions and what, if any, influence my leadership had on these decisions."

Working full-time as an educator and studying for a graduate degree is taxing at the best of times. Valerie notes, "During my journey, I have had many job changes, in particular, leaving the public school system and joining the post-secondary sector. While all these changes were beneficial to my growth and my advancement into management in the sector, each change caused a pause in my research as I settled into my new position. Gaining momentum again was difficult each time." And then came COVID. Valerie explains, "I had to amend my data collection methods to get the level of data that I needed... but I am very thankful for the support that the faculty at BU provided.

Reflecting on people who have provided mentorship and guidance in her career, Valerie identifies Shirley Kulchycki, a school administrator who fully supported her aspirations to become a principal, and Dr. Cathryn Smith, her master's supervisor. Valerie explained, "I have been working on my master's for over seven years. There were many times when I was ready to quit. Dr. Smith gave me my options but was always supportive of my decisions. I have never faced this type of challenge before. It was tough. It is one of the greatest personal challenges I have ever experienced."

After over 35 years in the education system, on completion of her master's degree, Valerie is looking forward to using her background and experience to support schools, school divisions, teachers, and leadership in areas of educator development and retention. She also hopes to publish in the area of educational leadership and mentorship. And, importantly, Valerie serves on the BU CARES advisory board, coming full circle from what initially sparked her interest in education research and providing the opportunity to continue her involvement with research at BU.

ASHLEY AUSTIN

Anthropology

Epidemic detective:
Influenza in 1918

Ashley Austin is finishing her undergraduate degree in anthropology at Brandon University. From Dauphin, Manitoba, Ashley originally enrolled in the pre-nursing program but found herself more interested in the electives she was taking. After some years away from university, she returned to BU and transferred to the Faculty of Arts.

She says, "Taking some time to figure out what I wanted to do really helped me succeed in my education. Being a mature student, I was able to take a lot of the skills I learned working and travelling and apply them to my studies. I knew that I wanted to major in anthropology and went for it." Ashley will graduate with a BA Honours in October 2023.

Ashley's interest in cemeteries and archival research was aroused when she worked as a research assistant with Katherine Nichols on the Brandon Residential School Cemetery project and a project on Brandon Cemetery in a course, *Anthropology of Death*, with Dr. Emily Holland. Ashley explains, "Dr. Holland had booked a tour of the cemetery for our class. Each student was assigned a section of the cemetery, and we had to come up with a research question, collect data within our assigned section of the cemetery, analyze our data, write a report, and give a presentation to the class. I was mainly looking at tombstones and what the tombstones can tell us about the community in the cemetery. I really liked learning about the cemetery. It was really fascinating to me."

That class project led to Ashley's honours project, *The Brandon Municipal Cemetery: Demography & Epidemiology/1918 Influenza in Brandon, Manitoba*. The main focus was on the 1918 influenza pandemic and how it specifically affected Brandon. Ashley reflects, "My research was a little bit like detective work. I was looking at mortality trends—what people died of. What was the most common cause of death?" In preparation for this project, Ashley researched many archival documents (newspaper articles and publications), wrote a research proposal, and completed a Brandon University Research Ethics Committee (BUREC) application before gaining access to the cemetery records and

death certificates from the City of Brandon. She explains how she conducted the research, "I sorted through these records and analyzed the data in search of trends in the cause of death, sex, age at death, date of death, and occupation. Access to this data allowed me to track the first and second waves of the 1918 epidemic in Brandon and determine when and if there were following waves. Through analyzing causes and rates of mortality, I was able to determine if there were any other epidemic outbreaks in the community." Reading about the 1918 flu epidemic, Ashley was able to draw an interesting parallel with the recent COVID-19 pandemic in regard to mask-wearing and vaccinations.

Ashley has found researching early Brandon and the 1918 influenza epidemic fascinating. "I have learned so much and hope to help preserve these unique stories and pieces of history. What I find the most interesting is learning about how a community dealt with infectious diseases in a time when antibiotics and widespread vaccinations were not available," she said. She hopes to continue this project with the Brandon Municipal Cemetery in graduate school and is hoping to study at the University of Manitoba or the University of Calgary. She would like to expand the time period from the inception of the cemetery until the 1950s, and possibly further, noting, "I think it is really fascinating what you can learn about a population based on archival data. Archival data also provides an opportunity to do research without disturbing the skeletal remains of individuals."

Ashley is very proud of her accomplishments—moving to a new country [Kuwait], returning to Canada and to university during a pandemic, Zoom classes and lockdowns, induction into both the Dean's Honour List and the President's Honour Society as well as receiving the Frank Stott Memorial Scholarship in Archaeology and the George Thorman Bursary and Scholarship in Archaeology. Ashley appreciates the mentorship of several professors at BU. "Dr. Holland has been an incredible mentor to me throughout my time at Brandon University. She has always been supportive, insightful, and helpful and provided me with opportunities to join her in the field and the lab, which I think has played a critical role in helping me determine my future plans. The whole anthropology department at Brandon University has also played a massive role in inspiring me to pursue my studies. Each professor I have encountered has influenced and supported me. Much credit goes to Dr. Emma Varley, Dr. Mary Malainey, Dr. Megan Bower, Ms. Alicia Gooden, and Ms. Katherine Nichols for always believing in me and providing me with the opportunity to succeed and shine."

LIAM NOHR

Political Science

Jumping from volleyball court to political arena

When Liam Nohr was asked to describe his experience at Brandon University, he enthusiastically responded with, "Nothing short of great! Playing my favourite sport at the highest level, finding my passion in research, and connecting with professors and other students with similar interests are some things I will take with me throughout my academic and life journey. I have made life-long friends and colleagues with whom I hope to keep in touch in the future."

But he admits his university-life balance took some time to master. Finding his stride in his third year, the former BU volleyball player worked hard to create a schedule that allowed him to excel as an athlete, as an academic, and as a researcher.

Liam credits three professors in the Department of Political Science with influencing and mentoring his research success. Dr. Kelly Saunders' class in *Canadian Federalism* and Dr. Allison McCulloch's *Ethnic Politics* classes were both central in formulating his research topic and interests, and both professors served as his supervisors. When asked about Liam, Dr. McCulloch replied, "Liam is an exceptionally bright student and kind person whose curiosity about the world will serve him well in his future endeavours." Liam also acknowledged that his willingness to dig deeper into his thought processes and research was largely due to Dr. Rick Baker.

Liam's main area of research sits at the intersection of Canadian and comparative politics and the broad idea of federalism as a means of both alleviating and exacerbating tensions within multinational states. "Within the Canadian context, federalism has been promoted through a constitutional lens that allows for constitutionally recognized communities to participate within the federal system. However, this leaves the original founding nations, Indigenous peoples, out of the conversation, resulting in the perpetuation of a settler-colonial framework and a plethora of Indigenous resistance to this

framework," Liam said. He intends to use Canada as a base study to investigate how reconciliatory federalism, promoted throughout the Liberal government, could be implemented in other states that have a colonial framework and multinational population makeup. Given the sensitivity of his research, Liam expressed the importance of considering his positionality to ensure he is not telling someone else's story but rather helping them to bring forth their perspective.

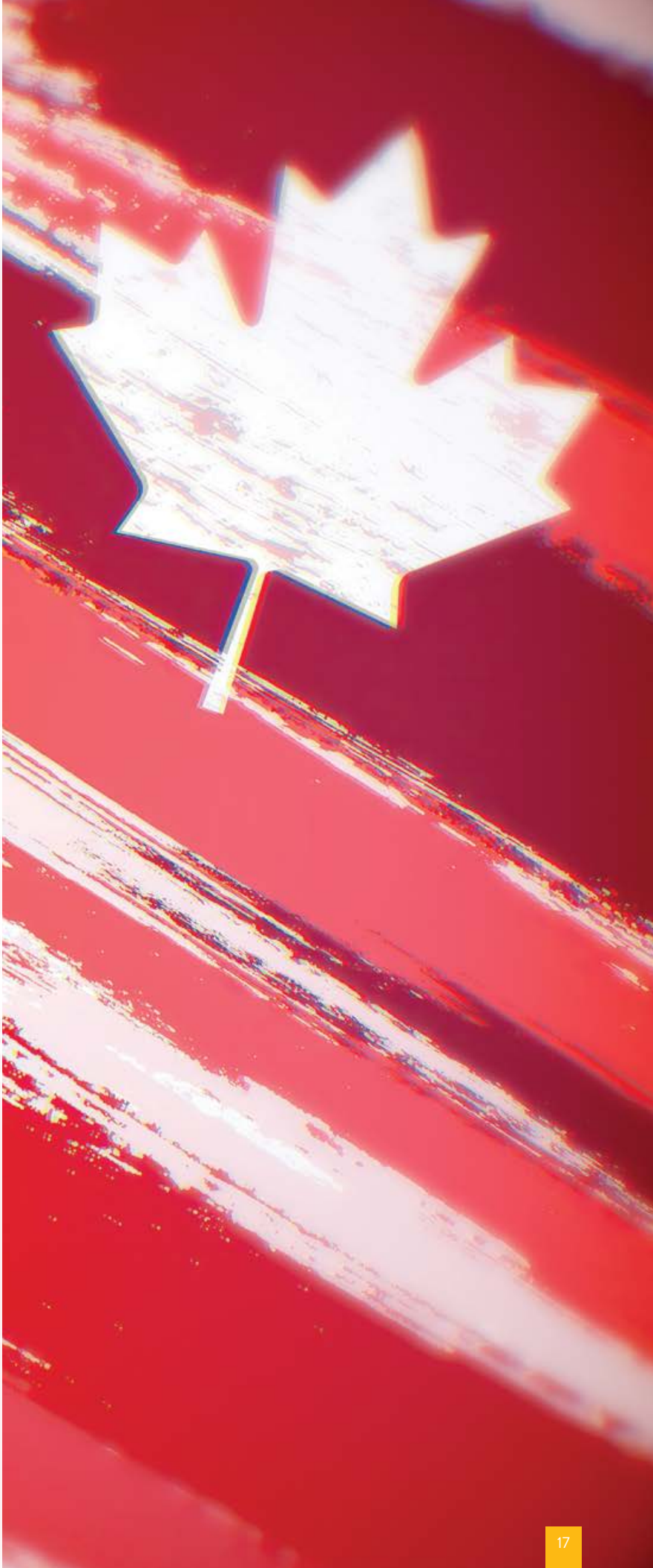
When asked about the best advice he has ever received, Liam responded, "Do not overthink your abilities. I was very insecure about my ability to actually do political science and decipher the literature and complex ideas and topics in my early years at BU. However, I was consistently reminded by friends and professors that I knew the material; it was more of a case of not believing that I did. Once you get over that hurdle, research and academics become more enjoyable and fascinating."

And what advice would he give to students? Just "be open-minded" and "take time to find your passion."

Undertaking research at Brandon University exposed Liam to a variety of experiences and opportunities he would not have been afforded otherwise. He worked as a research assistant on a federally funded Social Sciences and Humanities Research Council (SSHRC) project with scholars he admires; presented his research at several conferences in places such as Paris, France, Kingston, Ontario, and the Peace Gardens, and published his topics paper in the peer-reviewed student journal *E-Federalism*.

"I have learned that research is an ongoing pursuit and that it takes time. By having the chance to work with and learn from scholars who are currently writing and researching complex and nuanced topics and questions, I discovered that research does not come easy, even to those who have been doing it for so long and are highly achieved," he said.

Liam intends to finish his master's degree and possibly pursue a PhD in political science. He also admits that there is something in the back of his mind pushing him towards policymaking and government, but he will see what the future holds.



BRADY NAULT

Biology

Joining a new team

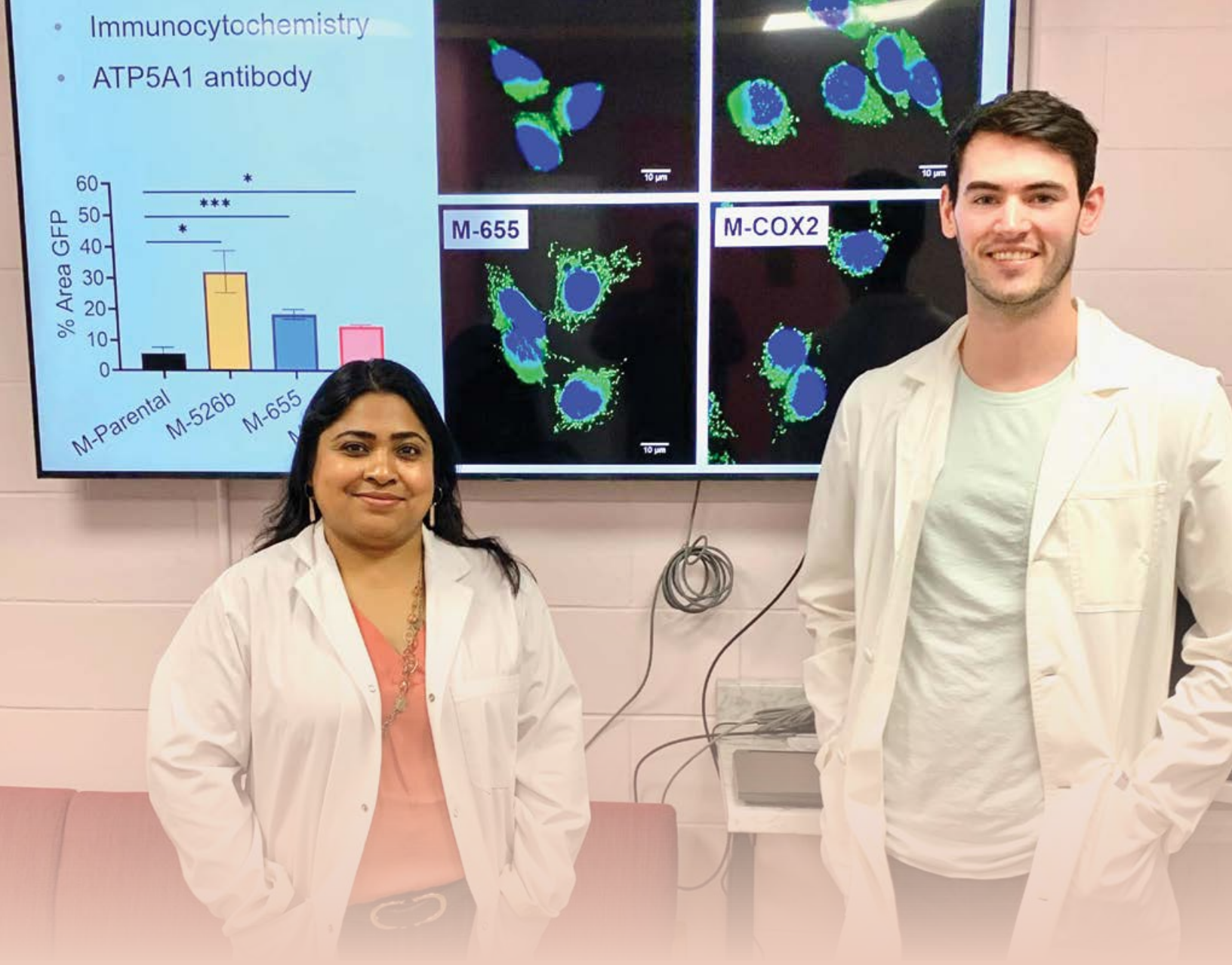
When Brady Nault came to Brandon University to play volleyball for the Bobcats, he instantly knew it was a place where he could learn and grow. And when Dr. Mousumi Majumder from the Department of Biology approached him about research opportunities for Indigenous students, he was intrigued.

"When I reached university, I was interested in medicine until my fourth year when I was taking *Cancer Cell Biology* with Dr. Majumder. She had been one of the few professors I had met who really integrated speaking about her work and research interest in the class material. So, when she reached out about an undergraduate research opportunity, I jumped at the opportunity and haven't looked back," said Brady.

The focus of the Majumder lab is miRNA in breast cancer. The small strands of genetic material can influence or essentially "turn off" certain genes, making cells behave differently. Majumder identified two miRNA that are prominent in breast cancer and contribute to aggressive growth and the spread of cancer to other organs. "My project is looking at the changes in energy production pathways as a result of these miRNA and if we can use these changes as a signature for an early diagnostic screening test. As cancer cells require more energy to account for the increased growth and division, we believe related molecules may serve as good biomarkers for the disease," said Brady.

Brady enjoys being part of a research team and appreciates the independence he is allotted as a student researcher. One of the most satisfying and rewarding things that he has been a part of is seeing how their research lab has grown. When Brady started out, they were only a group of four working in a small lab. Now, a newly built state-of-the-art lab and a team of ten researchers are growing.

Brady seized opportunities to share his research at events such as the Manitoba Student Health Research Forum, Cancer Care MB Research Day, Canadian Cancer Society RIOT Symposium, and speaking at the national RiboClub meetings. He was a supporting author on four research publications, with a fifth submitted as first author. He was also the recipient of the Research Manitoba Master's Studentship



Dr. Mousumi Majumder and Brady Nault

Award and two Natural Sciences and Engineering Research Council (NSERC) Undergraduate Student Research Awards.

"Brady is a very hard-working and sincere student who is determined to be successful," said Majumder. "The best quality you can find in highly trained athletes and researchers like Brady is their work-life balance and discipline. Brady was named captain of the Brandon University Men's Volleyball Team and a Bobcat champion, and currently, he is serving as a coach. Even with such a busy schedule, Brady is focused and remains highly productive. He is mentoring undergraduate students in my laboratory and managing multiple research projects and is a great team-player; these are great leadership qualities. Brady is conducting impactful research on breast cancer metabolomics. He is a man of few words, but his work speaks volumes."

When asked about the advice he would give to other students, Brady said, "I would say attend talks and seminars, whether they are students or professors presenting. This is where you will learn about all the amazing research going on at BU. Ask questions, and if you are interested, talk to professors about what they are working on and if there is any way to get involved."

Brady admits his Brandon University experience has evolved greatly from being an athlete focussed on his performance on the court to balancing high performance in both athletics and in the classroom, to now focussing solely on academics and producing quality research. Brady said, "One thing has always been evident at BU, it's all about the community, whether it's the community support felt at Bobcat home games or the support and collaboration within the Faculty of Science."

Brady hopes to pursue a PhD following graduation. He wants to remain in the field of cancer research, where the complexity of the disease holds countless areas to research and the potential to impact people in a meaningful way.

STEPHANIE SPENCE

Psychiatric Nursing

Standing strong in cultural connection and anti-racism

Stephanie Spence is a bridge-builder. She stands in the intersections of cultural worldviews, academic systems, and marginalized voices and calls to people on the other side, inviting them to think and live in better ways. Entering her third year of a Bachelor of Science in Psychiatric Nursing at Brandon University, Stephanie is shining brightly in spaces where Indigenous voices have often been marginalized.

As an Indigenous girl growing up in the predominantly white community of Treherne, Manitoba, Steph's early years led her to begin a journey of embracing her identity. This journey has continued during her academic years as she recovers her roots as a Swampy-Cree woman whose family was forcibly relocated from the historical site of York Factory to Churchill, Manitoba.

Within Brandon University, her background and experiences have led her into research projects with strong social justice components, where again she takes on the role of bridge-building between academic research projects and Indigenous cultural communities. As a research assistant, she is documenting shifts towards more equity, justice, and decolonization.

One such research project was done with the Centre for Critical Studies of Rural Mental Health, "A Warrior's Red Road," followed urban Indigenous men as they reconnected to their own culture. She joined them on a hunt, the creation of traditional drums, and the community and healing that was found through sharing and learning together.

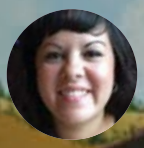
In her work with Brandon University's Centre for Applied Research and Education in Indigenous, Rural, and Remote Settings (BU CARES), Steph supported projects like "Community Voices," and "Viral Vitriol," where she dove deep into Manitobans' experiences of racism and used film and social media to educate for anti-racism, sparking in-depth conversation and growth.

Through her involvement in these research projects,

Steph's voice was strengthened while she honed key skills and built a platform from which she still shares her ideas and insights. She has presented these research findings at conferences across the country, building public speaking skills and a budding network of like-minded researchers and scholars.

Looking ahead, Steph aims to become a psychiatric nurse working within Indigenous communities, championing Indigenous knowledge and culture. She is already thinking about a master's thesis centred around her family's history and its connections to community health. A PhD would not be too far off.

Steph's story is one of strength, growth, and education's potential for self-discovery and transformation of self and others. She still stands on the bridge, calling others to the same growth and transformation, inspiring us all to have courage, ask questions, and find our own paths toward meaningful change.



JILLIAN THOMAS

Psychiatric Nursing

Therapeutic use of art and mental health recovery

As a Registered Nurse and Clinical Nurse Educator, Jillian Thomas has seen first-hand the therapeutic value of art.

The hospital where she works in Edmonton encourages clients to create art in various forms, from drawing, painting and photography to clay sculpting and woodworking as part of their mental health or addiction treatment.

She's learning more about patients' perceptions of art as therapy through research for her Master of Psychiatric Nursing thesis at Brandon University. Jillian has interviewed 11 participants to gain a greater understanding of the benefits they get from their creative activities.

"It's a hobby that they can enjoy. But it's also more than a hobby in a lot of ways because it connects them not just with themselves but with other people in their community," she said.

Those connections could come from getting to know peers with similar interests, or bringing back memories of family or loved ones with whom they once did arts and crafts with. She said art can also lead to the discovery or rediscovery of healthy coping mechanisms for the stresses or challenges in their lives.

Jillian points to art as an easily accessed, safe and cost-effective alternative or complement to medical treatments with proven merit in managing issues such as depression, personality disorders, schizophrenia, post-traumatic stress disorder, psychosis and neurological disorders.

Jillian began her career working in front-line positions before transitioning into an educator role. While she liked working in various areas of practice as an RN, she was always drawn to mental healthcare, which was one of her reasons for applying to BU more than 12 years after completing her undergraduate studies. While the MPN program is delivered through distance education, the annual visits to the Brandon campus are among the highlights she will remember.

"I have a lot of fond memories about visiting the campus early on in the program for the in-person sessions at the beginning of the year," said Jillian, who did have a loose connection to Brandon as her mother's family briefly lived in the city after immigrating from India and before moving to Alberta. "I look back and laugh at my worries of not being able to navigate the campus or get to the site from the airport because

Evan Isbister, Alberta Health Services

I assumed it was as spread out as in Edmonton or my experience at the University of Alberta. I really appreciate the small-town feeling in Brandon and the university. I love how tight-knit the community is and how warm and welcoming essentially everyone I met has been."

Jillian also expressed gratitude to her thesis advisor, Dr. Jane Karpa, and committee members Dr. Kendra Rieger and Prof. Debra Dusome for their feedback and encouragement.

"Jillian is a dedicated psychiatric nurse clinician and researcher," said Dr. Karpa. "The findings from her study will assist mental health clinicians in considering and adopting holistic treatment approaches to further mental health recovery."

As an artist herself, she wasn't surprised to learn how powerful a tool creativity can be.

"I have been a creative person for as long as I can remember and have been involved in health care in some capacity as soon as I could volunteer as a pre-teen," she said. "I truly believe art has greatly enriched my life in so many ways and has inadvertently helped me to maintain my own health and wellness."

Jillian has painted several murals at sites she has worked at in Edmonton over the years and was recently awarded a grant by The Mental Health Foundation to paint an immersive 360-degree mural in the Sakastew (Rising Sun) Ceremonial Room. She was even able to conduct some of her thesis interviews in the room and was thrilled to hear client reactions to the mural, even though they did not know she was the artist.

"After consultation with a respected Elder, I selected various sacred plants and animals to paint throughout the four seasons, which was recently unveiled at our site's Truth and Reconciliation event as a way to promote community connection, personal reflection, and healing. It was truly an honour to be included and a highlight of my career."

JOANNA FORD

Education

Listening to student voices in education

Having grown up in small-town Manitoba before studying and teaching in Lithuania and Taiwan, Joanna Ford knows about culture shock.

It's an issue she tries to address in both her career, teaching English as an Additional Language (EAL), as well as in her Master of Education research at Brandon University.

"Growing up in a small town I did not have many opportunities to interact with people who were from diverse places," said Ford, who is in the Curriculum and Pedagogy stream of BU's MEd program. "Once I moved to Winnipeg to attend university, I began meeting people from all over the world. I started tutoring international students and really enjoyed getting to know about their experiences and learning what it was like to live outside your own language and culture group."

Ford appreciates the value of knowing more than one language. She grew up in an extended Mennonite family, where *Plautdietsch*, a German dialect also known as Low German, was the primary language. She spoke and understood *Plautdietsch* as a youngster, but as opportunities to use or hear *Plautdietsch* waned, so did her ability to speak it. While she can still understand the language, she regrets that she is not able to share it with her children.

That desire to share language and culture has driven much of her education and her career. While pursuing her Bachelor of Education at the University of Winnipeg, she studied in Lithuania for a semester as part of an exchange, completing a practicum teaching English in a Russian-language school, later returning to teach a summer program. She began her teaching career in Winnipeg before moving to Taiwan with her sister to teach English to young children.

"The culture shock was one thing, but going from teaching high school students to pre-schoolers was another kind of adjustment," she said.

She went on to teach in term positions in rural Manitoba before spending another year in Taiwan, then resumed her education upon her return to Canada. Ford completed a Post Baccalaureate in Education and a Certificate in Teaching English as a Second Language at the University of Manitoba,

then began a MEd at U of M. Another exchange program gave her the opportunity to study linguistics at Portland State University in Oregon, where she also taught English to international students as a part-time job. Following her time in Portland, Ford moved to Brandon with her husband, Derek, who had accepted a position at Assiniboine Community College. She began teaching EAL in various capacities in Brandon, culminating in her current position at Prairie Hope High School.

After a break, Ford decided to resume her MEd studies, this time at BU. Ford was one of several EAL teachers who developed a successful Bridging and Transitioning Program for young adults who had come to Brandon without high school experience or documents to show their prior learning, and this became the basis for her thesis research. Advised by Dr. Burcu Yaman Ntelioglou at BU, she has interviewed students on their experience in the Bridging and Transitional Program. She said hearing student voices through her research has allowed her to reflect on what is working in the program and what can be improved.

Ford said it was Dr. Ntelioglou, whom she had met while working as an EAL teacher, who encouraged her to resume her MEd studies. Ford is glad she took that advice, despite the challenges of balancing a full-time job with family and parenting commitments.

"I have had a lot of stops and starts and there have been plenty of times when I wanted to stop," Ford said. "Now that I am nearly finished the process, I am glad that I did go through with it, mostly because I want to honour the voices of my students."

MARSHALL NORTHAM

History and Education

Finding truth in unanswered questions: Learning from an unsolved murder mystery

Many students come to university to prepare for a job, but sometimes, a job can contribute to academic success as well.

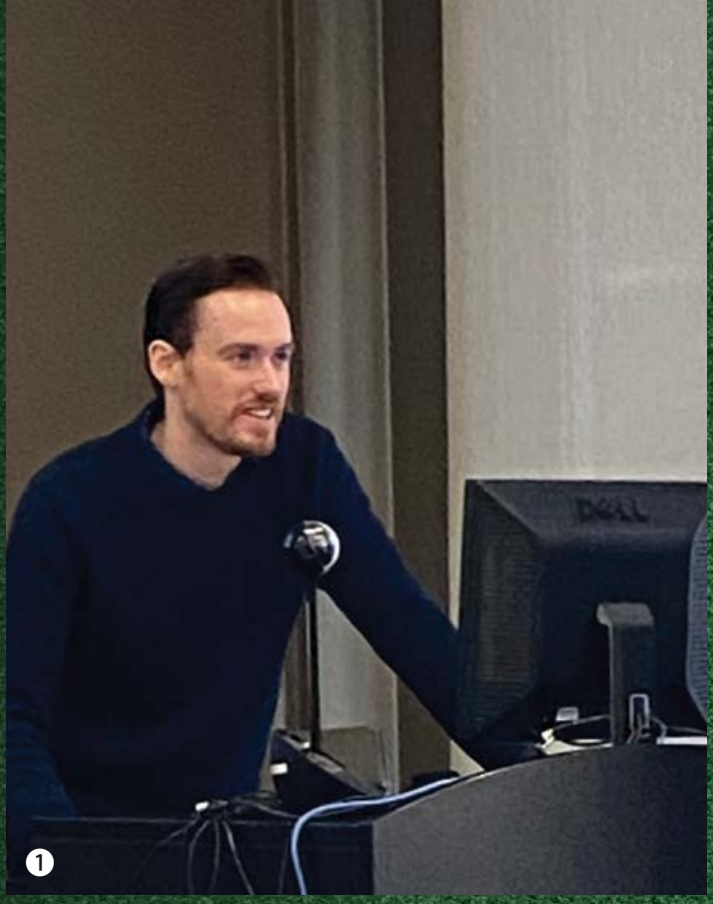
Such is the case for Marshall Northam, whose Brandon University Co-operative Education Program placement provided the inspiration for his history honours thesis.

While working at Riding Mountain National Park as a heritage presenter in 2022, Marshall guided a dark history townsite tour, which introduced him to the story of the unsolved 1932 murder of Park Warden Lawrence Lees. He was given permission to view declassified RCMP files that had been obtained by another Parks Canada employee. What he found was a case that has fascinated and perplexed investigators for decades. While the case remains unsolved, Marshall learned about the "us versus them" tensions between the park wardens and the area's immigrant populations, particularly in this instance, the Ukrainian community that lived just outside the border of the newly established national park.

"The public likes a good murder mystery, and so the topic catches people's attention, but there is also an appreciation of what the Ukrainian community went through," Marshall said. "Through my research, I have been able to bring to light corruption within Canada's warden service and its negative effects on a minority immigrant population. I think stories like this are really important in debunking the Canadian myth that there has always been fair treatment and justice for all in our society. It's important to face head-on the injustices of the past."

Having grown up in an agricultural region north of Rapid City, Manitoba, Marshall followed his mother, Valerie, and his older brother, Caleb, in studying at nearby BU. He originally intended to study English as a major, with History as a minor, but a first-year assignment prompted Dr. Jim Naylor of the Department of History to encourage him to pursue an honours degree in History. Galvanized by receiving that kind of positive feedback so early in his academic journey, and with a genuine interest in the field, Marshall followed through. His family has farmed in the region for many years, and so this topic gave him the opportunity to learn more about a story that practically took place in his own backyard.

"Marshall Northam knows a great story when he sees it," Dr. Naylor said. "Working at Riding



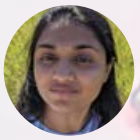
1. Marshall Northam presenting his research into the unsolved 1932 murder of Riding Mountain National Park Warden Lawrence Lees • 2. Police investigating the Lees' garden for clues. 3. The Lees' house, where the murder occurred. 4. The Lees' yard. 5. Mrs. Myrtez Lees being carried into an emergency vehicle.

Mountain National Park, he had become aware of the 1932 murder of Lawrence Lees — itself a riveting tale. But, as a skilled emerging historian, he immediately recognized the array of questions the event posed. What did it have to say about depression-era prairie society, about the inequities of economic change, about immigration and prejudice, about the role of state authorities, and so much more?"

Marshall completed his Bachelor of Arts (honours) degree in the spring of 2023 and is set to begin an After Degree in Education in the fall. He plans to teach for a career, but also hopes to continue presenting public history to adults as well. So far, he's off to a good start, having presented his research at BU's Senior Colloquium as well as speaking at the University of Manitoba.

Researching history can be a daunting task, with vast quantities of information to go through to produce a focused, meaningful result. Marshall was motivated, though, by having a true passion for his studies, something he encourages all students to strive for in their work.

"Just enjoy the ride," he said. "Don't stress about deadlines and exams. Research what you love, and that will make your academic journey a lot easier."



NIDHI PATEL

Biology

The secret lives of prehistoric plants

As a person who spends a lot of time outdoors with her family, Nidhi Patel loves to take a good look at the nature surrounding her. And we mean a really good look.

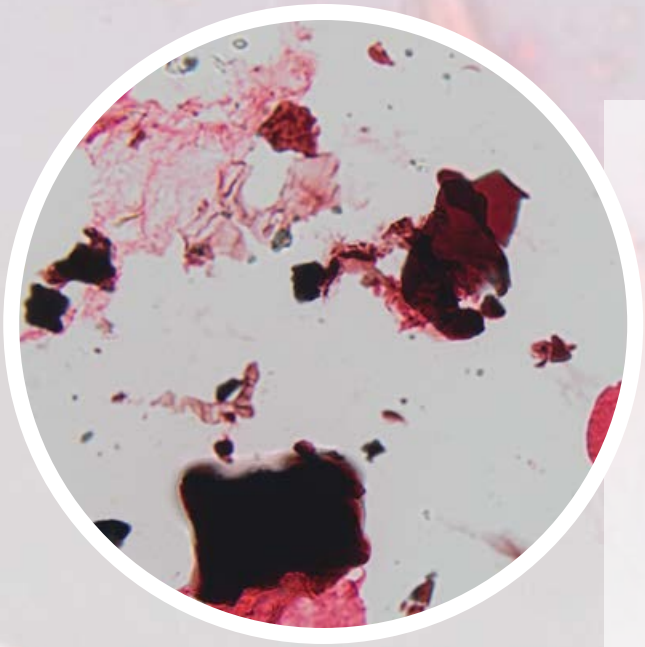
Nidhi is on an academic journey that has taken her from India to Canada and into the select company of the palynology field, studying spores and pollen as she learns about the evolution of plant life on Earth.

"I had never seen a plant fossil before I joined Brandon University," she said. "My research in palynology is also quite unique, and I do not think I would have come across it anywhere else."

Although naturally curious, Nidhi did not originally set out on this course. Growing up in the huge city of Vadodara, in India's most western state of Gujarat, she went on frequent outings with her grandfather, including a trip to see fossilized dinosaur eggs discovered near her community. Prehistoric life was little more than a novelty to her at the time, though. Nidhi completed a BSc in Environmental Science before immigrating to Canada to study project management in Toronto. Her job search led her to Brandon, where she met her husband, and their focus turned to business and family as they purchased a restaurant and became parents to two sons, now aged eight and six.

In 2018, Nidhi's desire to learn emerged again, and she enrolled at Brandon University to pursue a bachelor's degree. Initially leery about resuming her education after a long break, she enrolled in only one class, but she was soon going full bore, earning a BSc (honours) in just three years, followed by a MSc (Environmental and Life Sciences), which she completed this year. Through her studies, she was introduced to palynology and paleobotany by one of her professors, Dr. David Greenwood, and she was hooked.

Nidhi added new perspectives to a project started by a previous student, examining plant microfossils preserved in coals and mudstone in Manitoba's Turtle Mountain formation. As a graduate student, she went on to study microfossils from Vancouver Island's east coast from the Cretaceous-Paleogene mass extinction that wiped out all non-flying



dinosaurs. The fossil record showed how photosynthesis was halted, and many plants became extinct as their pollinators perished. She pointed out, though, that the angiosperms that survived the extinction gave rise to modern forests.

"Looking at microfossils is just amazing and understanding that this is something a plant contributed that grew millions of years ago just puts everything in perspective for me," she said. "The most satisfying aspect of this is that my contribution through this research is a small missing piece to a big, gigantic puzzle of the evolution of life on Earth!"

Nidhi credits Dr. Greenwood for his inspiration and mentorship. The admiration is mutual!

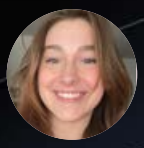
"It has been an absolute delight to work with a student with such cheerful dedication, enthusiasm and passion for her research, and an absolute privilege to have contributed to the start of what I hope will be a stellar research career," Dr. Greenwood said.

That research is continuing this fall, as Nidhi has been accepted into a five-year fully funded PhD program at Stanford University.

Nidhi's story is remarkable, but she believes that others can follow equally exciting paths with curiosity and the courage to pursue answers to the questions they have.

"Get involved," she urges students. "If you have questions, then ask them. Scientists, teachers, and professors go above and beyond to help you when they see how passionate you are about the field. So don't be afraid to reach out."

"Looking at microfossils is just amazing and understanding that this is something a plant contributed that grew millions of years ago just puts everything in perspective..."



BROOKE LOEWEN

Physics and Astronomy

Reaching for the stars at BU

Brandon University gave Brooke Loewen the opportunity to stay at home with family and friends while still accomplishing a childhood dream of reaching for the stars.

Brooke, who was born and raised in Brandon, has completed a Bachelor of Science (Honours) degree at BU, majoring in Physics and Astronomy.

"I would always look up to the stars on a clear night and be amazed by what I would see," Brooke said. "I always dreamed that I would be able to gain some knowledge about our galaxy, and the courses offered here at BU about astronomy just furthered my interest."

Inspired by her Vincent Massey High School physics teacher, Mr. DeGroot, Brooke chose to study physics at BU. Working under the supervision of Dr. Tyler Foster at BU, Brooke followed through on her childhood curiosity by investigating the "rolling motions" in the spiral arms of the Milky Way galaxy, where there appears to be movement toward us above the galactic plane, where most of the galaxy's mass is, and away from us below the plane. Brooke's research focused on whether the apparent motion could be explained by the geometry of the spiral arms.

The Milky Way Galaxy – NASA Solar System Exploration

The research involved some serious groundwork early in the process, as she measured points along blobs of hydrogen gas in the spiral arms so that she could then perform calculations on those measurements.

"By far the most challenging part of my research was the initial measurements," Brooke said. "It was very difficult as it was not a clean, 'here is where the arm starts and where it ends.' It involved a lot of estimations and approximations.

Brooke sheepishly admits she made the calculations harder than they had to be before a helpful classmate pointed out a much easier way. The work was worth it in the end, though, as she was able to determine that the rolling motion cannot be described as a geometric illusion, and that there must be something else causing the phenomenon. Of course, that means there are still questions to be answered, but Brooke realizes that an important part of the scientific process is eliminating the wrong answers in order to get closer to the right answer to the question.

"Seeing the results after months of research and calculations, there is no better feeling than seeing all those hours finally pay off and having a real result," she said.

Dr. Foster is certainly impressed with her work.

"Brooke is an incredibly analytical and mathematical mind and has a particular talent for geometry and trigonometry," he said. "She is well on her way to becoming an influential scientist and a role model for other women in the physical sciences."

Brooke said learning in Dr. Foster's class about the monumental contributions to astrophysics by women — such as Vera Rubin, who helped confirm the existence of dark matter —has been an inspiration in her own scientific journey.

Following her graduation from BU, Brooke has moved on to the University of Manitoba, where she plans to study medical physics in her master's program. The Loewen family is still well represented at BU, with her two siblings both pursuing Education degrees.

"BU is truly a great school with incredible opportunities for their students," Brooke said. "I have loved my time as a BU student and will definitely miss it."

HEATHER STEPHEN

Psychiatric Nursing

Research shaped by life experience

As a frequent visitor to the Caribbean during her youth, Heather Stephen grew to appreciate the region as more than just a vacation spot.

While growing up in Winnipeg, Heather was able to spend significant time visiting and exploring Caribbean countries due to her mother's career as an airline employee. Her mother, Cheryl, gave her more than the travel bug, though, passing on values that have guided Heather's life and her career. Together, her ideals and her experience in the Caribbean have also formed the basis of Heather's research at Brandon University.

"My mother has been most influential in instilling in me the importance of standing up for what you believe in and working to affect change, especially when it comes to oppression of and violence against women," said Heather, who is a student in BU's Master of Psychiatric Nursing (MPN) program, working toward a 2024 graduation.

Heather's longtime desire to help survivors of interpersonal violence led her to obtain a Bachelor of Arts in Psychology and later a Health Care Aide diploma at Herzing College in Winnipeg. It was about that time that she discovered BU's Bachelor of Science in Psychiatric Nursing (BScPN). She enrolled

at BU, becoming a parent herself while a student in the BScPN program, and graduated in 2016. Heather began her career working in adult acute inpatient psychiatry and was accepted to BU's MPN program in 2018.

The distance education format of the MPN degree allowed Heather to continue to explore new frontiers, as she moved to Bermuda with her son in 2020, immediately before the COVID-19 pandemic, to work as a psychiatric nurse. They relocated back to Manitoba in 2022, where she is now working in community crisis services, but her experience in Bermuda continues to be the focal point of her research.

Heather is conducting a qualitative study, interviewing women about their experience of accessing domestic violence resources during the pandemic in Bermuda.

"Through my personal and professional experiences, I have identified a gap in the research on the efficacy of interpersonal violence resources from the survivor's perspective," Heather said. "I wanted to provide women with a space to tell their stories and what would improve their experiences."

Heather, who is being advised by Dr. Jane Karpa, said her research experience has been overwhelmingly positive, and credited her thesis committee for being responsive and easy to communicate with.

"As a new researcher, I experienced feelings of anxiety and self-doubt throughout the process," she said. "Having an extremely supportive and accessible thesis committee has helped manage those feelings immensely and made this experience exciting and enjoyable."

Initially intending her study to be based on Manitoban experiences, Heather shifted her focus when she decided to move to Bermuda. No longer being in Bermuda has been a challenge in conducting her research, but Heather is thankful she has found ways to make it work with the support of organizations there. She'd like to return once the research is complete to propose a pilot project to work towards service improvements based on the ideas she has heard from the participants. Her positive experience at BU has also planted the seed of an aspiration to join the faculty of the BScPN program one day.

Heather is also trying to inspire her son, who is now nine years old, the way her mother once inspired her.

"Now, raising my son as a single parent myself, it is important to me to lead by example and show him no matter the circumstances, you can and will achieve your goals."

IAIN COWIE

Rural Development

Friluftsliv and outdoor recreation during COVID-19

Iain Cowie, a master's student in the Department of Rural Development, was born and raised in Brandon. "I am a bit of a city boy, I guess, but I also have rural roots. My Grandpa is a farmer in Minnedosa," Iain said. After taking sociology as his undergrad, he decided that rural development captured his interest.

For his master's thesis, Iain researched the impact of outdoor recreation and green space exposure on well-being during the COVID-19 pandemic. The study was based on a survey conducted in the spring of 2021 assessing the outdoor recreational activities of Brandon residents and the perceived impacts on their mental health and well-being during the pandemic. Iain's research provides insights into the role that parks and green spaces play in providing critical infrastructure that facilitates opportunities for outdoor recreation and nature exposure, which allows for the restoration and maintenance of well-being.

Iain's research was influenced by his passion for running and basketball. Due to limited indoor activities, he started running during the pandemic. "There wasn't much you could do inside. So, there was kind of a void, and I started running," Iain said. The idea for his thesis topic was sparked by a National Geographic article on the Norwegian philosophy, *Friluftsliv,* or "free air living," as well as a topic paper he wrote for Dr. Doug Ramsey in his Rural Canada class. For this assignment, Iain chose to explore the music of Neil Young and how it relates to rural places. "That's one of my favourite papers I ever wrote. I loved that assignment," Iain said.

Iain's research included a survey and literature review. It discussed the concept of well-being and its connection to outdoor activities, particularly during the COVID-19 pandemic. It found that people significantly increased their outdoor activities, which led to a higher level of perceived subjective well-being.

In terms of conducting the research, the pandemic certainly presented its challenges. Iain explained, "I hung posters all over campus at BU. However, in the spring of 2022 no one was really around and so I had to get a bit more creative and started distributing it online. I set up a QR code and went to the Brandon Hills to put up a poster there."

"Really, everything I know about research I learned at Brandon University," Iain observed. At BU, he developed independent project-building skills and worked with various partners. Conducting research provided him with opportunities—Iain now works as a community researcher for the Rural Development Institute at BU and is involved in a five-year project with Myera Group designing a community assessment tool that will help support Indigenous communities with wellness outcomes, agriculture and food sovereignty incorporating traditional knowledge and practices.

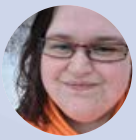
Upon graduation, Iain hopes to complete the five-year project with Myera Group. For the future, "I am open to staying in Canada, moving to the United States or somewhere overseas like Norway," he said.

Iain advises students to research something that is of interest to them and something they can be passionate about. He explained that BU, being a small university, allows students to get to know their professors. "Your professors are there to set you up for success. They are more approachable, and you can form a relationship with them. They are there to help you", he noted. Iain emphasized his appreciation for the mentorship he received at BU from Dr. Doug Ramsey, his thesis advisor, as well as his other two rural development professors, Dr. Ken Bessant and Dr. Wilder Robles, along with Dr. Wayne Kelly, director of RDI, and his thesis advisor for his undergraduate degree, Dr. Ariane Hanemaayer.

Going to BU was a very positive experience for Iain and allowed him to grow. He explained, "I feel I've come a long way from when I was 18 and graduated from high school—something that I can be proud of. I am the first person from my family to pursue a masters' degree. Just learning all the different skills and doing my own independent research project for my thesis is a big accomplishment for me."

"Iain's research provides **insights into the role that parks and green spaces play** in providing critical infrastructure that facilitates opportunities for outdoor recreation and nature exposure..."

Brandon Hills - Race the North Face



KIM DUNTHORNE

Geography and Environment

Going with the flow for cleaner water

Sometimes it pays to be bored.

A realization that came to Kim Dunthorne during some downtime at work led her to the major research project of her Bachelor of Science in Environmental Science degree.

"The idea came to me while I was sitting bored on my lunch break at work," Kim said. "I doodled my idea down on a Post-it note, and that's how it all started."

Kim has been studying how filtering fine-grained sediment from natural waterways can reduce pollution.

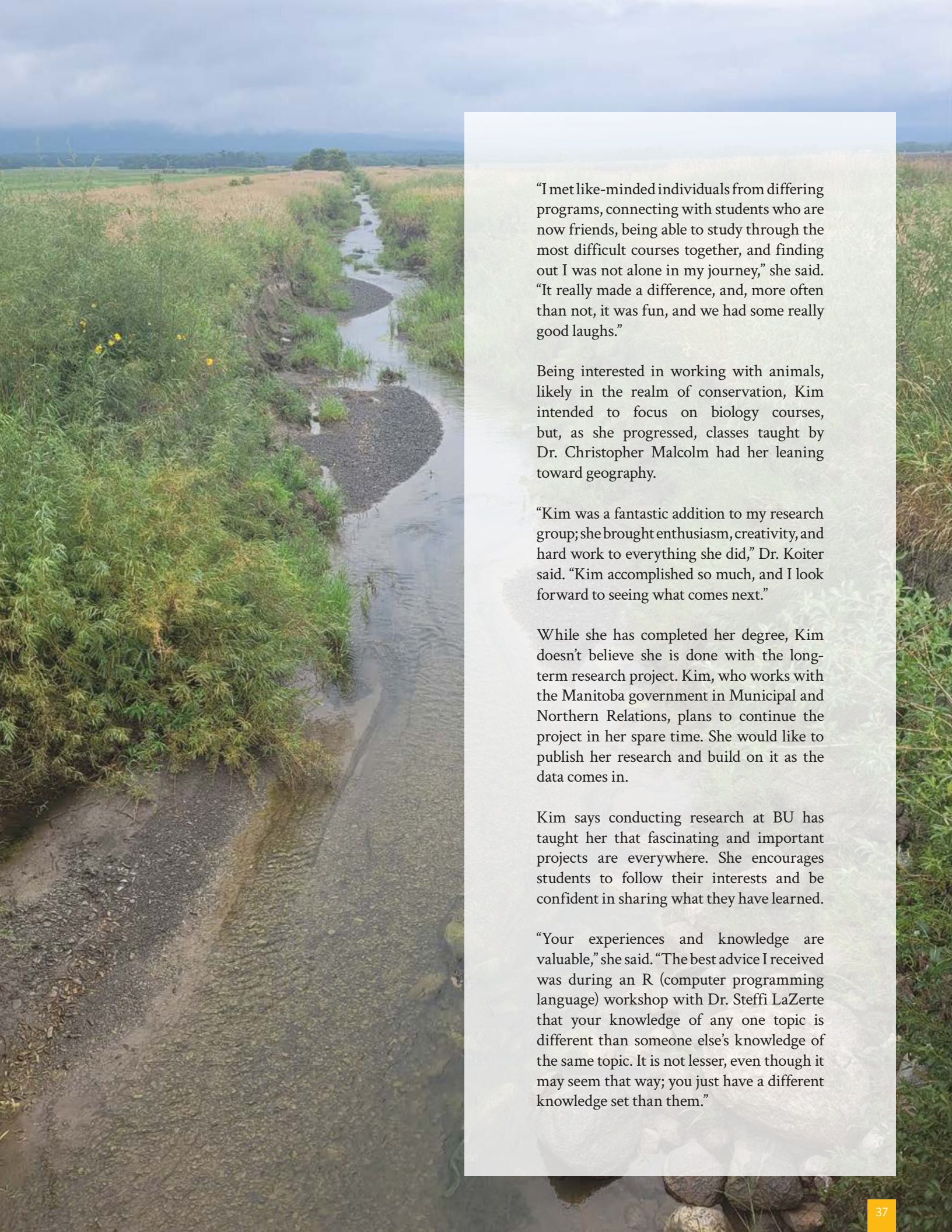
"The idea behind it is that pollutants bind to the fine-grained sediments," she said. "If you remove sediment from the water, you're taking up the sediment pollution as well as other nutrient pollutants that are in our waters."

Kim says agriculture, mining and other human involvement add extra sediment to waterways that isn't naturally there. Her research, supervised by Dr. Alex Koiter of Brandon University's Department of Geography and Environment, looks at the possibility of using natural materials, like clay aggregate and pumice, to filter the water. She designed a model to simulate the natural flow of water, showing how sediments collect the pollutants. She also participated in the monitoring of the Wilson Creek watershed near McCreary, Manitoba.

"We've learned that channels can migrate pretty fast when the flows are very high because the equipment we put in basically got buried four or five feet, and we spent two days trying to dig it out," she said. "With this project, we are mostly looking to understand where material is coming from and where it goes."

Clean water wasn't always Kim's mission, but she has always had a passion for the environment and wildlife. After graduating from high school in Brandon, Kim's goal was to work with animals, and she moved to Edmonton looking for a program that suited her. While researching a program at Northern Alberta Institute of Technology, she learned from her father, Al Dunthorne, who worked at Brandon University in Information Technology and has since retired, about BU's growing Environmental Science program.

She decided to return to her home community, enrolled at BU and later joined the BU Geography and Environmental Science Society, which she says is one of the best experiences she's ever had.



"I met like-minded individuals from differing programs, connecting with students who are now friends, being able to study through the most difficult courses together, and finding out I was not alone in my journey," she said. "It really made a difference, and, more often than not, it was fun, and we had some really good laughs."

Being interested in working with animals, likely in the realm of conservation, Kim intended to focus on biology courses, but, as she progressed, classes taught by Dr. Christopher Malcolm had her leaning toward geography.

"Kim was a fantastic addition to my research group; she brought enthusiasm, creativity, and hard work to everything she did," Dr. Koiter said. "Kim accomplished so much, and I look forward to seeing what comes next."

While she has completed her degree, Kim doesn't believe she is done with the long-term research project. Kim, who works with the Manitoba government in Municipal and Northern Relations, plans to continue the project in her spare time. She would like to publish her research and build on it as the data comes in.

Kim says conducting research at BU has taught her that fascinating and important projects are everywhere. She encourages students to follow their interests and be confident in sharing what they have learned.

"Your experiences and knowledge are valuable," she said. "The best advice I received was during an R (computer programming language) workshop with Dr. Steffi LaZerte that your knowledge of any one topic is different than someone else's knowledge of the same topic. It is not lesser, even though it may seem that way; you just have a different knowledge set than them."

NATASHA OFWONO

Education

Unmasking imposter syndrome

Natasha Ofwono studied for a master's in educational administration and graduated in June 2023. She grew up in Kampala, Uganda, with her mother and sister in a home where education was always emphasized. Natasha has travelled widely for education—Kenya, Malaysia, and now Canada. While studying for her undergraduate degree in psychology in Kenya, she worked and volunteered in a school and became interested in a career in education. "I loved working with children. I liked interacting with them. I liked learning from them as much as they were learning from me. And I feel like that solidified what I wanted to do.

Natasha has worked on a number of research projects as a research assistant in the Faculty of Education at Brandon University and is a co-author of three publications. However, based on her own experiences as an international master's student in Canada, the topic she chose for her own research was imposter syndrome in teachers. Imposter syndrome is a phenomenon that impacts people's belief and confidence in themselves. Inwardly, however qualified they may be, they feel that they lack the knowledge and skills to fulfill their role. Natasha explains, "As an international student, I think it is important to reflect on what I have gone through. I felt like I did not belong because perhaps I did not have the right tools, the right education, and the right understanding of what was going on in class." Natasha continues, "Often, for example in group discussions, I didn't really understand what they were saying because they all came from a Canadian educational background. My teaching experience was from a different country, and I felt like I did not fit in. I found a lot of Canadian literature challenging to understand

and implement in terms of assignments or research. Not to mention I had to work multiple jobs to pay my tuition and other bills. And even trying to make friends of the same cultural background or even interest was a challenge. So, I struggled quite a bit and felt like perhaps this was not where I belonged. It overwhelmed me so much. And then, with the pandemic, my mental health took a dip. In my home country, mental health and awareness are not emphasized at all."

Natasha expresses gratitude for her instructors, in particular her advisor, Dr. Jackie Kirk, who noticed the stresses and pressures Natasha was undergoing and reached out to support her. Dr. Kirk invited Natasha to work on some projects with her. Natasha notes, "I think Dr. Kirk hoped I would find my way in the education system as a teacher if I came to read more literature and see it unfold. I believe it worked. Sometimes it's just the smallest things that people, or your instructors, do that can make a world of difference in a student's life. That's how I started researching imposter syndrome in teachers. I was really trying to infuse research into my own lived experience."

In conducting her research, not only did Natasha find it helped ease her own feelings, but she also discovered that others experience these feelings. As a research assistant, she learned to work with the community and to understand the responsibilities of a researcher to the research participants. "The research projects I was a part of were enabling change in schools and the lives of people," Natasha notes with pride.

Now that she has graduated with her master's degree, Natasha reflects on her educational journey at BU. "It has been impactful, unforgettable, and humbling. In the beginning, I felt I was an imposter, but not anymore." Natasha hopes her story will be informative for other students, and her advice to them is "discomfort is inevitable, but you choose what you want to do and move forward. Make meaningful friendships. Take time to learn and relearn who you are and want to be. Be an impact on yourself as much as others. And finally, people will not know you need support unless you tell them or ask for it."

Moving forward, Natasha plans to continue educational research in Canada. However, her goal is to eventually return to Uganda to support the growth of the curriculum and help revitalize the education system. Natasha reflects, "My country is going through a lot of political disputes. It is heartbreaking to see how students, teachers, adults, and people in politics have lost so much in regard to education— their understanding of what belongs to them, their rights, freedom of speech and expression. And I feel like that is where education comes in."

REMY RENZ

Music

The pain of performance

As a flutist, Remy Renz knows that music is good for the soul, but not always kind to the body!

As a high school student in Winnipeg, Remy was injured while putting in extra practice to earn a spot in an honour band. Remy explains "The flute is a fun instrument but very tricky in terms of not being very natural to the body in that asymmetric, heavy, kind of awkward way. Flutists are very prone to injury, which is kind of how I got interested in my research topic, which explores *Playing-related musculoskeletal disorders in musicians.*"

Remy is studying in the general stream of Brandon University's Bachelor of Music program, which does not normally have a large research component, but they sought and received permission to take the graduate-level *Music, Research and Bibliography* course, which allowed them to explore prior research on injuries to musicians.

"I had an idea about the prevalence, but when I really started diving into what the literature said, the rates of injuries, especially of the musculoskeletal kind in musicians, is exceedingly high," Remy said, noting that one literature review found that between 40 and 80 percent of musicians experienced musculoskeletal disorders in their lifetime, while another found that 64 percent of young musicians had been injured by the time they reached university.

Remy said this issue is exacerbated by a lack of awareness. They point out that athletes, even at pre-professional levels — such as at universities — have access to therapy teams to help them deal with injuries, but similar support is almost non-existent for musicians. Remy said many potential professional music careers have been nipped in the bud by persistent injuries, and they are tossing around the idea of writing a book that could help musicians pursue their craft healthily.

Remy notes "I really enjoyed this research. I loved creating those connections between music and performing arts medicine. It is a collaboration between musicians as well as physiotherapists and medical professionals. It is a field that's only been developed in the last 20 or 30 years." Remy's professors were so impressed by the depth and quality of their work that they were selected to present it at the *Out of Bounds* lecture series to the faculty.

Remy notes there has been very little research on the topic, and, if not for some crucial choices at

> “I really enjoyed this research. I loved creating those connections between **music and performing arts medicine.**”

key times, this research might not exist either. Remy also took a circuitous route to enter their current program. They were considering careers in alternative agriculture and education before opting to study in the music education stream at BU and later settling on the general stream. They said a diagnosis of Attention-Deficit/Hyperactivity Disorder [ADHD] contributed to struggles in their early years at BU, which has been mitigated somewhat by coming to terms with the condition and accommodations by the university. It’s been a long, but rewarding, journey.

“BU changed my life in such a way that I did not expect,” said Remy, who is working to complete their degree online while working full-time. “When I came to this institution, I actually didn’t have a passion for music, specifically. I just kind of had a direction. Coming here, I learned so much about myself and what I want. I discovered my passion for music at BU and developed my interest in research. I made so many integral relationships that shaped me as a person, and I can really say that coming here has really changed my life in a way that allowed me to grow and flourish and that will help me for my future.”

AMANDA LAVIGNE

Psychiatric Nursing

A career based on caring

As the oldest of seven siblings, Amanda Lavigne has developed a caring nature that has shaped her career and her studies at Brandon University.

"At 13 years old, a big part of my life was before and after school and summer care of six younger siblings, and that really shaped my leadership skills and sense of responsibility," Amanda said. "My younger siblings taught me that each of them has their own background and needs, and each requires a different approach and finesse."

The empathy she developed motivated Amanda to enter a psychiatric nursing program as soon as she completed high school at 17 years old. Having grown up primarily in Sylvan Lake, Alberta, Amanda graduated from the Registered Psychiatric Nursing diploma program at the Ponoka, Alberta, campus of MacEwan University (then known as Grant MacEwan College) in December 2008. She began her psychiatric nursing career the following month in Edmonton before moving to Kamloops, British Columbia, where she has held numerous roles leading to her current position as a Clinical Nurse Specialist with the regional network substance use team with Interior Health. She also completed her RPN Bachelor of Science through Douglas College before enrolling in BU's Master of Psychiatric Nursing program (MPM). Amanda had a previous connection to Brandon, having been born in the city before moving to Alberta at the age of two. However, it was BU's status as the only university in Canada with an MPN program that led to her revisiting her first home, albeit through an online program.

"The history and dedication to developing and evolving our profession is inspiring, and I am proud to be accepted into the program," Amanda said.

At first, she was a bit intimidated by having to write a thesis for the MPN program, but she's since grown to appreciate the opportunity to do research and dig more deeply into the issues of addiction. Supervised by Dr. Jane Karpa, Amanda is studying the experiences of British Columbia nurses and psychiatric nurses in prescribing opioid agonist therapy (OAT)—medications that reduce withdrawal and cravings—to treat people with opioid use disorder.

"One of the most satisfying aspects of my research was definitely interviewing the RN/RPN prescribers and hearing their stories and their passion for being

part of the solution to the toxic drug crisis," Amanda said. "It's been incredible to hear how proud they are to be part of a new frontier in nursing yet humbled to undertake prescribing OAT to help combat the devastating toxicity of the illicit drug supply."

Amanda is also excited to have her professional accomplishments recognized in the past year by the BC Centre on Substance Use and the Nurses and Nurse Practitioners of BC, with awards in relation to her clinical leadership in nurse prescribing and other initiatives. She also had the opportunity to present joint work with a colleague at the International Council of Nurses Congress in Montreal.

Working full-time while pursuing her master's has challenged Amanda's perseverance and time management, but she's encouraged to be so close to the finish line as she works toward her goal of having her thesis completed and published. To relax, she enjoys spending time outdoors with her husband and their three dogs, as well as baking and gardening. She's also appreciative of the support she's received from her instructors and her peers.

"I feel like the program is rooting for you the entire way and is set up for you to succeed," she said.

> "One of the **most satisfying aspects of my research** was definitely interviewing the RN/RPN prescribers and **hearing their stories and their passion** for being part of the solution to the toxic drug crisis."

CARTER HILDEBRAND

Geography and Environment

Bogged down in research

Walking on squishy bog and peatlands was a far cry from the hardwood of a volleyball court for Carter Hildebrand, but research based in Manitoba has been a great way for him to get his feet wet — literally.

"It's like you're walking on a giant sponge, essentially. It feels like you are floating, there's no solid ground ever. It never feels like you're walking on something solid, which is really very weird," he said. "It almost feels like you're on a trampoline when you're walking out there, like you're bouncing. If you try to jump up and down, there are peat waves… it's a very surreal experience."

It's also slow going, he says, with every step sinking down, so that walking just a kilometer can take more than a half hour. With that much moisture, he and his fellow researchers wear hip waders, even in the summer heat.

"Every day, the path sinks further and further down and then it was filling up with water that we'd walk through and then there'd be a hole. I'm a tall man, and I would go down to the top of my thigh in the water," he says. Once, he even plunged chest deep — filling his hip waders with water. "Made for a slightly uncomfortable rest of the day but made for a funny story to laugh about."

His height and volleyball background gave Carter his pick of universities when he graduated high school in 2016. He says Brandon University being so close to friends and family made it the right choice.

"I have nothing but good things to say about Brandon University," Carter says. "I have always appreciated the size of our university and the relationships that you can form with fellow students as well as with many members of the staff. I feel that this connection is not one that you would find at any larger institution in Canada and one thing that makes BU so great."

With an undergraduate degree in geography in hand, Carter came back to BU for the Master of Environmental and Life Sciences (MELS) program. The research that took him to the bog and peatlands of southeastern Manitoba seeks answers to how "islands" of one kind of wetland can form inside a different kind of wetland. It's basic research that could have important implications for future peatland restoration.

"I really enjoy working with and creating data that have true meaning in the natural world -- from data collection in the field to entering data into spreadsheets and finding new ways to view and work with that data to tell a story," Carter says. "The most satisfying aspect of my research was just the true beauty of working where we did. Eastern Manitoba looks far different from the prairies in and around Brandon. The wetlands where we worked were full of life, with animals and beautiful plants that we got to explore every single day."

Research supervisor, Dr. Pete Whittington, says that Carter brings a great combination of talents to student research.

"While he works hard, he also works smart, thinking about his research questions and the best way to answer them," Dr. Whittington said. "Carter is a curious and dedicated student, two qualities that make him an excellent asset to my lab."

Next up, Carter says he's still deciding whether to pursue further education, perhaps a PhD, do more research, or whether to begin his career in an environmental or hydrological field. Either way, he credits BU and the MELS program for setting him up with a great start.

"There are just a lot of people from various different departments that I can learn from, and we can share what we've learned and what we're working on and kind of teach each other in a sense about what we are doing. And it's just very nice being in a small university."

GREG GABOURY

Geology

Revolutionizing road construction

With a desire to learn and a diverse background that allowed him to work in various fields, Greg Gaboury has been fortunate to acquire abundant knowledge and experience. He graduated high school with a dual diploma in drafting and subsequently attended Assiniboine Community College in Brandon, where he completed his Civil Engineering Technology Diploma.

After spending a few years travelling for work, which included working for a diamond mine in the Northwest Territories, Greg always considered Westman his home. The decision to pursue further education at Brandon University was easy. After completing a 3-year Bachelor of Science degree focusing on biomedicine, Greg is now enrolled in the Second Degree Program offered at BU to complete a 4-year Honours degree in geology.

His thesis topic is titled "Stabilization of Unconsolidated Carbonate Base Material." Greg further explained, "This research investigates the possible stabilization, strength, and durability of limestone and dolomite aggregate roadbeds by applying the addition of glaciofluvial/glacio-lacustrine clays and organic catalysts (Road// Stabilizr®1) and examines the use of varying material mixtures and construction protocols that are readily available in the prairie regions of Canada." Preliminary investigations at Brandon University provide some indication that extraordinarily high bearing strengths might be achievable using dolomite or limestone aggregate and the appropriate reactive clays.

Due to its smaller class sizes, its location in the city, and the diverse and highly knowledgeable professors and support staff within the various faculties, Greg has always been fond of BU. "Everyone wants to see you succeed, and everyone is willing to help you reach the goals you set for yourself, and this is not just limited to the faculty your research is being performed within. Whether it is asking for advice, clarification, or the use of a piece of equipment another faculty or department has access to, all educators will happily make time for the students at Brandon University," Greg acknowledged.

> “**Successful research** isn’t about knowing everything but **working with other experts within their fields** to build upon your own knowledge.”

Moving around for his employment and gaining more experience and knowledge has always been enjoyable for Greg. He commented, “I am always looking for new opportunities and have always believed that the perfect career will eventually find me.” His inspiration is his overall desire to learn and remain active in research that directly benefits the public and his community. Greg’s advisor, Dr. Hamid Mumin, has played a large part in Greg’s decision to remain active in research. Dr. Mumin noted, “Greg brings a wealth of knowledge and practical skills to the road stabilization project. His previous background in construction, civil engineering, biology and environmental work enables him to use a multidisciplinary approach to solving a complex and interesting applied research problem.”

In Greg’s opinion, “Every question is ‘stupid’ to someone, but you do not know the answer, so just ask.” He encourages students to ask someone else if they don’t get an answer the first time. “Never dismiss an answer or suggestion just because it doesn’t fit with your own narrative or beliefs. Keeping an open mind is just as important as anything else.”

Greg and his wife, Jennifer, live in the Town of Alexander with their two boys, where he joined the Volunteer Fire Department. Greg has an outgoing personality and usually has a lot of tasks on the go. “I have a lot of hobbies, including camping, gardening, the restoration of classic vehicles, golf, and attending all the sporting events my two sons are involved in,” Greg commented and went on to say, “There are only so many hours in the day, and you have to know how and when it’s appropriate to dedicate specific time to any one of these things. It’s making decisions and sacrifices for the good of one but making sure it doesn’t negatively affect the others.”

JAMES MAXON

Rural Development

Arranged marriage:
Manitoba rural amalgamation

Having completed an undergraduate degree in political science and with a position in local government in Brandon City Hall, James Maxon enrolled in the Master's of Rural Development program at Brandon University. "It was a great program because it allowed me to pursue political science. It attracted me as it looked to be much more applied and relevant to an area in which I intended to make a career," he said.

James was searching for a thesis topic that would allow him to apply his knowledge to an area of significance to Manitoba. One idea was to explore recent (at the time) municipal amalgamations. In 2013, the government of Manitoba announced that it would amalgamate any municipality below 1000 residents. On January 1, 2015, this came into effect, and 107 municipalities were consolidated into 47. Such a significant reduction made an impact on rural municipalities in southern Manitoba. "I wanted to look more into it," James said.

"After some digging into the subject, I realized just how shallow the current literature surrounding amalgamations was. What hooked me was this gap in knowledge that had to be explored!"

James decided to focus his research on the governance of rural areas because, as he notes, "anything outside Winnipeg is considered rural in Manitoba. Even Brandon is technically considered a rural community in terms of how the province interacts with us." On researching the topic, James found that pre-existing literature mainly focused on evaluative studies using pre- and post-amalgamation quantitative data comparing expenditures. James was more interested in the human element, which, especially in small offices, is an integral part of administration. "It could be four people governing the municipality. I wanted to go and talk to the people who were actually administering these municipalities to find out about their experiences. I have a general understanding of what difference amalgamations made, which allowed me to identify areas to start the topics of the conversations. For example, *what did amalgamation do?' How did you handle it? What*

happened to your services? Do you have more or less?" James explained. To find answers to these questions, James interviewed Chief Administrative Officers (CAOs) from Manitoban municipalities that were amalgamated in 2015. A thematic analysis identifying common occurrences across the interview transcripts revealed some of the impacts the amalgamations had.

Having completed his thesis, James reflects on what BU has taught him about research. "I didn't go into the Rural Development program exactly excited to conduct such an intense research project. Nevertheless, I understood it to be the path that would be most valuable to me. Conducting my own research and writing a thesis is something that I never thought I could do. It was a challenge but also stimulating for me to commit and actually do it. It has also really made me look more critically at how statements and arguments are made and how to engage meaningfully with substance behind what I say. I can support my findings with confidence, knowing it is quality research."

As for advice to fellow students, James suggests, "Take your time and go at the pace that works best for you. Your final product will reflect the work you put in. Dr. Kelly Saunders said something a long time ago that has always stuck with me, 'Momentary discomfort for long-term benefit.' When you're in the middle of a project, it can feel like things are pretty darn rough, but there's a whole lot of life left once you get through it."

As for the future, James sees himself continuing to work in municipal administration. He is currently enrolled in a Certificate in Manitoba Municipal Administration (CMMA) program delivered in partnership by the University of Manitoba and the Manitoba Municipal Administrators (MMA). James notes, "I am learning the ins and outs of how things work in municipalities and the role of a municipality in a broad sense."

"After some digging into the subject, I realized just how shallow the current **literature surrounding amalgamations** was. What hooked me was this gap in knowledge that had to be explored!"

LACEY WINSTONE

Biology

Finding new therapeutic targets for breast cancer

Lacey Winstone grew up on a cattle farm in the Strathclair area of Manitoba and graduated from Brandon University with an honours degree in biology. She is now studying for a master's degree in biochemistry at the University of Saskatchewan, where she received a College of Medicine scholarship and an NSERC award. Lacey's topic of study is cancer research.

She explains, "I have always liked science, and so it was natural that it became my field of study. Growing up, I have seen many people I loved affected by cancer, a disease that has impacted most of us directly or indirectly. I want to help ease that burden by working on developing cancer treatments, drugs, or diagnostics that may lessen the burden individuals and families face."

During her undergraduate degree at BU, Lacey's first experience of research was as a research assistant in Dr. Mousumi Majumder's laboratory, where she worked on a biomarker in breast cancer diagnosis. She credits two of her professors, Dr. Majumder and Dr. Neal Melvin, with mentoring and supporting her. She explains, "Dr. Majumder was really helpful in making sure that I was well acquainted with regard to lab skills and processes, while Dr. Melvin pushed me to get a formal diagnosis for my learning disability [dyslexia], which had gone undiagnosed throughout my schooling." Looking back, Lacey recalls she has struggled with dyslexia throughout her education. "This always made me feel like I was behind my fellow students and not smart enough to get it. I always had to work twice as hard when it came to tests and assignments." With a diagnosis of dyslexia, in her 5th year at BU, Lacey was able to access the support she needed. Dr. Majumder applauds Lacey "as an extraordinary student when it comes to leadership. She is someone any young woman in STEM will look up to for inspiration. Regardless of her learning disability, she showed us with hard work and dedication, you can achieve any aim in life."

Lacey's advice for other students is to never give up, even though things are hard. She urges "just keep going; you are worth the fight to continue down the

path you choose. I was told multiple times that as a female and having a learning disability, a male-dominated field like science wasn't the best career choice. And so, my big thing is to keep pushing if that's what you want because you will find people who support your decision. And those people can help you get what you want. You don't have to listen to what everyone else is telling you."

At the University of Saskatchewan, Lacey is currently working in Dr. Wu's lab, looking at the functions of a helicase in myelodysplastic syndrome and acute myeloid leukemia, which may lead to future targets for drug treatments. Once she completes her master's degree, Lacey plans to work in the industry, either creating drugs or therapies to aid cancer patients or developing new ways for diagnostics to allow for early detection.

As well as being a dedicated researcher, Lacey is an accomplished dancer and choreographer and enjoys performing in theatre and musical productions. She even taught a Zumba class while at BU!

"I want to help ease that burden by working on **developing cancer treatments, drugs, or diagnostics** that may lessen the burden individuals and families face."

MADALYN PRYKE

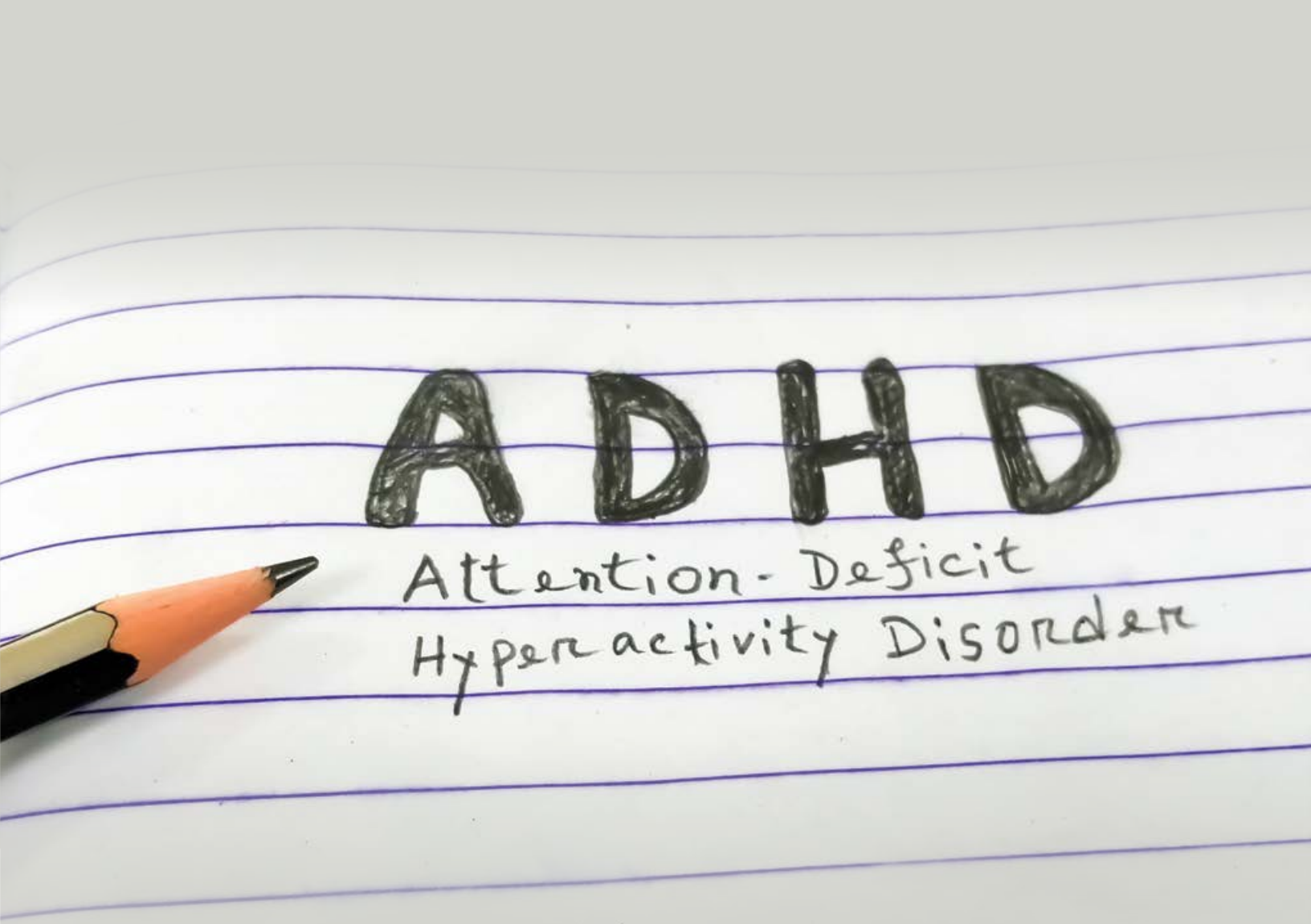
Psychology

Turning ADHD into an academic strength

Madalyn Pryke first became interested in learning about ADHD after receiving her own diagnosis. "Researching the symptoms was a surreal experience; it was as if I was connecting the dots of my life and solving the conspiracy of my struggles. As I learned more about ADHD and how to manage my symptoms, I also learned how I could work with my ADHD instead of against it. Using my new strategies helped me to work at my full potential and excel in school. I hope to help others succeed in university through my research," she reflected.

Madalyn loved research from the time she was introduced to it during her *Introduction to Psychology* class and says that the person who had the greatest influence on her research was Cora Dupuis, Co-operative Program Coordinator at Brandon University. Cora encouraged Madalyn and helped her get her first research assistant job, guiding her through the initial transition phase and mentoring her on things like presenting her findings.

Madalyn's research involved conducting several interviews with university students who reported ADHD symptoms. Participants were asked about their experiences having ADHD while in university, their use of accommodations, and if they believed having ADHD in university had any benefits. Madalyn noted, "Some of my preliminary findings are that students with ADHD have greater levels of creativity and are especially passionate about topics they are interested in. Additionally, students with ADHD possess the ability to hyperfocus, which is when they become so focused on one thing, they are completely unaware of anything else going on around them." For example, they can be unaware of how hungry they are. She also found that students with ADHD benefitted from knowing others at university with ADHD, which resulted in a more positive perception of their ADHD and a greater understanding of how their brains function.



"This led to the development of a neurodivergent peer mentor group at Brandon University, supporting neurodivergent students by allowing them to easily share their experiences and strategies with each other, along with creating a sense of community," said Madalyn. Madalyn's supervisor, Dr. Nancy Newall, Assistant Professor in the Department of Psychology, stated, "From the start, Madalyn has shown great enthusiasm for pursuing research on ADHD in university students. She showed incredible initiative throughout her honours project, taking the lead on recruiting and interviewing participants and presenting preliminary findings at local conferences. I believe her research on how students with ADHD are navigating university is an important contribution."

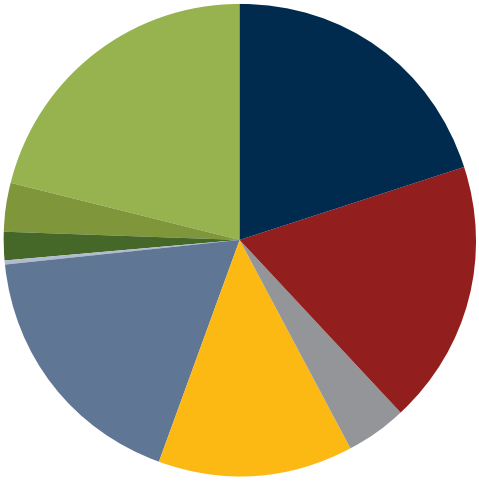
The most satisfying aspect of research for Madalyn was meeting fellow students with ADHD and connecting with them by sharing their experiences. Those connections helped validate her struggles and made her feel that she was not alone. Madalyn's advice to students would be to try and pay attention to when, where, and how they study and work best, stating, "We are all different and need different environments and circumstances to be optimally productive. Some of us study better at home, others need to be in the library, some people study best at 2 a.m., and others study best first thing in the morning. While talking to students for my study, I found that one of the common things that held them back was trying to work the same way everybody else did instead of focusing on how they studied best." Madalyn acknowledged that while most students don't have ADHD, the same approach applies. Being more self-aware and figuring out what one needs and when is a valuable skill that contributes to success both in and out of the classroom.

Madalyn plans to pursue a master's degree in clinical psychology to help people who are neurodivergent, part of visible minorities, and members of the 2SLGBTQ+ community. Madalyn expressed that her experience at BU was positive and that her professors were very accommodating and patient while she was struggling with her ADHD symptoms. She will always look back on her time at BU fondly and recognize the many opportunities she received to learn and gain hands-on experience conducting research.

Research highlights

External Research Funding Received in 2022-2023

Social Sciences and Humanities Research Council (SSHRC)	$640,097
Natural Sciences and Engineering Research Council (NSERC)	$566,600
Canadian Institutes of Health Research (CIHR)	$139,752
Canada Research Chairs Program (CRCP)	$420,000
Research Support Fund (RSF)	$560,149
Canada Foundation for Innovation (CFI)	$14,340
Other Federal	$55,035
Province of Manitoba	$113,204
Other - Industry, Business, Organizations	$661,023
Total Funding	**$3,170,200**



BRANDON UNIVERSITY RESEARCH COMMITTEE (BURC) 2022-2023

The goal of the Brandon University Research Committee (BURC) is to encourage research through the provision of research grants to Brandon University faculty. Grants are awarded to support the development of research at Brandon University and, in doing so, to enhance the institution's national competitiveness in terms of Tri-Agency research funding.

Total funding awarded in 2022-2023 was $106,933.

CANADA RESEARCH CHAIRS (CRC) PROGRAM

The Canada Research Chairs Program (CRCP) stands at the centre of a national strategy to make Canada one of the world's top countries in research and development. It invests approximately $311 million per year to attract and retain a diverse cadre of world-class researchers to reinforce academic research and training excellence in Canadian postsecondary institutions.

Chairholders aim to achieve research excellence in engineering and the natural sciences, health sciences, humanities, and social sciences. They improve our depth of knowledge and quality of life, strengthen Canada's international competitiveness, and help train the next generation of highly skilled people through student supervision, teaching, and the coordination of other researchers' work.

CANADA RESEARCH CHAIRS (CRC)

DR. JONATHAN A. ALLAN – Tier 2 Canada Research Chair in Men and Masculinities • Dr. Allan studies representations of men's sexual and reproductive health, especially men's experiences of infertility.

DR. RACHEL HERRON – Tier 2 Canada Research Chair in Rural and Remote Mental Health • Dr. Herron uses community-based research to develop more supportive environments for mental health in rural and remote areas.

DR. MOUSUMI MAJUMDER – Tier 2 Canada Research Chair in Genotoxicology • Dr. Majumder conducts comprehensive genotoxicological research to identify risk factors associated with breast cancer, understand tumor microenvironment, and find biomarkers for early breast cancer detection.

DR. SARAH PLOSKER – Tier 2 Canada Research Chair in Quantum Information Theory • Dr. Plosker develops the mathematical foundation behind quantum information theory.

Centre for Applied Research and Education in Indigenous, Rural and Remote Settings (CARES)

Founded in 2008, the aim of BU CARES is to promote and facilitate research activities that are of interest to rural, northern, and Indigenous communities, school divisions, and related organizations. The centre offers research support and networking opportunities for researchers actively involved in Indigenous and rural education research. CARES research projects have involved topics such as youth homelessness in rural areas, pathways to educational and employment success, engaging youth in community change, and anti-racism. The reports and publications from these projects are all freely available on our website bucares.ca .

Tourism Research Centre (TRC)

The Tourism Research Centre was established to build networks on campus and beyond, build research programs with those interested in tourism research, and to facilitate outreach opportunities with communities and tourism agencies and organizations. As the tourism industry grows locally, nationally, and internationally, so does the need for tourism research. For more, see BrandonU.ca/trc .

Centre for Critical Studies of Rural Mental Health (CCSRMH)

The Brandon University Centre for Critical Studies of Rural Mental Health was established in the spring of 2019. The intent of the centre is to respond to the issues facing rural people and communities through innovative, community-connected research and education that will, in turn, inform mental health policies and practices. The centre will act as a catalyst for collaborative rural mental health research while linking research results to people who can use them.

Rural Development Institute (RDI)

Founded by Brandon University's Board of Governors, the Rural Development Institute is proud of the 30 years of history as a centre of excellence. In addition to over 3,000 reports, publications, and presentations all free to download, the institute also publishes the peer-reviewed *Journal of Rural and Community Development.* As a multi-disciplinary centre, it applies its knowledge and expertise in Westman, Manitoba and across Canada. To help define its efforts it pursues five strategic directions: rural immigration, regional economic development, rural governance and capacity building, rural infrastructure, and rural innovation. For more, see BrandonU.ca/RDI .

Supporting BU Student Research

I wish to support student research and innovation at Brandon University. Please accept my total gift/pledge of: $

Name _____

Address _____

City, Province _____

Country _____ Postal Code _____

Telephone (h) _____

(c) _____

(w) _____

Email _____

☐ I would like to pay in installments of $ _____

☐ Bi-weekly ☐ Monthly ☐ Quarterly ☐ Annually

No. of installments: _____ OR ☐ ongoing until further notice

☐ My employer has a matching gift program. Please contact me for details.

Charitable Number 88953 5449 RR0001

☐ I wish to remain anonymous.

☐ Cheque (payable to Brandon University Foundation)

☐ MasterCard ☐ Visa ☐ American Express

Name on Card _____

Card Number _____

Expiry ____ / ____ CVC _____

Signature _____

(2505-020)

Please return to:
OFFICE OF ADVANCEMENT AND EXTERNAL RELATIONS
270–18th Street, Brandon MB, R7A 6A9
Call 204.727.7374 Toll-free 1.877.282.4483 (BU.2.GIVE)
Email Advancement@BrandonU.ca
All donations are tax deductible.

BrandonU.ca/Give

Please contact us for more giving options. Thank you.

Publications

Abidullah, Z., Patel, H., **Broome, J.**, & Bushnell, E. (2023). *A Computational Investigation into the Electron-Transfer Kinetics and Thermodynamics of Hydrogen gas production by Ni(S2C2H2)2, Ni(Se2C2H2)2, and Ni(Te2C2H2) complexes* [Manuscript submitted for publication].

Broome, J., Nguyen, N., Chen, V., & Bushnell, E. (2023). Gaining insight into the catalytic mechanism of the R132H IDH1 mutant: A synergistic DFT cluster and experimental investigation [Manuscript submitted for publication].

Broome, J., Xiang, L., Murray, T., Zaliskyy, R., & Bushnell, E. (2023). A computational investigation of the thermodynamics and kinetics of multiple single-step electron transfers of various Ni and chalcogen containing complexes [Manuscript submitted for publication].

Canadian Society for the Study of Education. (2018, May). *Language and literacy researchers of Canada, LLRC. Paper on Responding responsively to the other: Culturally-relevant, multimodal and multilingual literacy practices to support refugee students* (with **Joanna Ford**). Regina, Canada: University of Regina.

Doell, S., Herron, R., Lawrence, B., Kruth, M., Newall, N., Ramsey, D., Waddell-Henowitch, C., Pylypowich, A., Smith, N., & Kitz, S. (2021). *Rural community mental health & wellbeing during COVID-19: Research bulletin December 2021.* Centre for Critical Studies of Rural Mental Health. https://www.centreforruralmentalhealth.com/bulletins-community-reports

Feser, R., Opperman, R. M., **Nault, B.**, Maiti, S., Chen, V. C., & Majumnder, M. (2023). Breast cancer cell secretome analysis to decipher MIRNA regulating the tumor microenvironment and discover potential biomarkers. *Heliyon, 9*(4), e15421. https://doi.org/10.1016/j.heliyon.2023.e15421.

Ford, J., & Yaman Ntelioglou, B. (2019, December 13). *English language learners in K-12 classrooms* [Audio podcast]. Leaning in and Speaking Out Podcast. https://www.brandonu.ca/bu-cares/projects/podcasts/

Herron, R., **Doell, S.** (2022, November). *A snapshot of violence in home and residential long-term care in Manitoba. Safe Places for Aging and Care.* [Report]. Safe Places for Aging and Care Project. Project. https://www.safeplacesproject.com/presentations-and-media

Hunter, S., **Nault, B.**, Ugwuagbo, K. C., Maiti, S., & Majumder, M. (2019). MIR526B and Mir655 promote tumour associated angiogenesis and lymphangiogenesis in breast cancer. *Cancers, 11*(7), 938. https://doi.org/10.3390/cancers11070938.

Kirk, J., & **Ofwono, N.** (2021). *The sticky bits: What we learned from teaching in the pandemic.* Brandon, Canada: BU CARES Research Centre. 33.

Lam, M., Humphreys, D., Maltais-Laponte, G., Mayuom, A., **Spence, S.** (2023). The realities of racism: Exploring attitudes in Manitoba, Canada. *Journal of Intercultural Studies, 45*(4). https://doi.org/10.1080/07256868.2023.2270927

Lam, M., **Spence, S.**, Mayuom, A., Humphreys, D., & Osiname, A. (2023). Diminishing defensiveness in anti-racist discourse: Common pushbacks to online anti-racism content and suggestions for strategic maneuvers. *Equity in Education & Society,* 1–13. https://doi.org/10.1177/27526461231206407

Lam. M., Spence, S., & **Ofwono, N.** (2021, September). Orange Shirt Day messages. *Research Connection, 1*(3). https://www.brandonu.ca/research-connection/article/orange-shirt-day-messages/

Lavigne, A., Mema, S. C., & Toews, E. (2022, April 26). Tackling stigma directed toward people who use substances during the COVID-19 pandemic: Experience from a rural health authority in British Columbia. *British Columbia Medical Journal.* https://bcmj.org/blog/tackling-stigma-directed-toward-people-who-use-substances-during-covid-19-pandemic-experience

Nantais, M., Kelly, W., Kirk, J., Lam. M., Di Muro, M., **Ofwono, N.**, & **Spence, S.** (2021, September). Digital realities of Manitoba school divisions. *Research Connection, 1*(1). https://www.brandonu.ca/research-connection/article/digital-realities-of-manitoba-school-divisions/

Nohr, L. (2023). Reconciliatory Federalism – A nation-to-nation relationship under critical evaluation. *Federalism-E, 24*(1), 1–18. https://doi.org/10.24908/federalism-e.v24i1.16267

Pan, Z., Anyichie, A., & **Pellerin, S.** (2023, May 27–June 1). *Supporting pre-service teachers' self-regulated learning engagement through formative assessment: A mixed-methods case study* [Paper Presentation]. Canadian Society for the Study of Education 51st Annual Conference, Toronto, Canada.

Patel, N. U., Greenwood, D. R., Greenwood, C. L., Galloway, J. M., & Desautels. M. (2022.) A reconstruction of the early Paleocene palaeovegetation of Turtle Mountain, south-western Manitoba, Canada. *Palynology, 46*(4), 1–16, https://doi.org/10.1080/01916122.2022.2064555

Pellerin, S., Estacio, P., & Herron, R. (2023). A snapshot of violence in home and residential long-term care in Nova Scotia. Safe Places for Aging and Care Project. http://www.safeplacesproject.com

Renz. R. (2022, December). *A literature based understanding of musculoskeletal playing-based disorders in professional and pre-professional musicians.* [Presentation]. Out of Bounds Lecture Series, Brandon University.

Renz, R. (2023). *Playing-related musculoskeletal disorders (PRMDs) in musicians: The majority of musicians play with pain, but what are we doing about it?* [Manuscript in preparation]. School of Music, Brandon University.

Shin, B., Feser, R., **Nault, B.**, Hunter, S., Maiti, S., Ugwuagbo, K. C., & Majumder, M. (2019). miR526B and miR655 induce oxidative stress in breast cancer. *International Journal of Molecular Sciences, 20*(16), 4039. https://doi.org/10.3390/ijms20164039

Ugwuagbo, K. C., Maiti, S., Omar, A., Hunter, S., **Nault, B.**, Northam, C., & Majumder, M. (2019). Prostaglandin E2 promotes embryonic vascular development and maturation in zebrafish. *Biology Open, 8*(4), bio039768. https://doi.org/10.1242/bio.039768

Waddell-Henowitch, C. M., Kruth, M. L., & **Stephen, H. M.** (2022). Reiterating a need for antiracism praxis in nursing and psychiatric nursing education. *Journal of Nursing Education, 61*(8), 439–446. https://doi.org/10.3928/01484834-20220602-04

Waddell- Henowitch, C. M., Gobeil, J., Tacan, F., Ford, M., Herron, R., Allan, J., Kruth, M., & **Spence, S.** (2022). A collaborative multi-method approach to evaluating Indigenous land-based learning with men. *International Journal of Qualitative Methods, 21.* https://doi.org/10.1177/16094069221082359

CANADA'S FINEST REGIONAL UNIVERSITY

BE AGILE • BE COURAGEOUS • BE INCLUSIVE

BRANDONU.CA

Leech Group 320135