

NEWSLETTER

HOME OF OPERATION HEAT SHIELD CANADA

Generating the knowledge to help Canadians adapt and prepare for rising temperature extremes

FEBRUARY 2026 • VOLUME 5 • ISSUE 1



NEWS AND NOTEWORTHY

CHILDREN, HEAT, AND LEARNING: AN URGENT PUBLIC-HEALTH CHALLENGE

Across Canada, rising temperatures and more frequent heatwaves are creating increasingly hazardous conditions for children and youth, particularly in indoor classrooms and during physical activity. Heat that was once an occasional summer stressor is now regularly overwhelming school buildings, playgrounds, and after school programs, threatening children’s health, concentration, emotional well being, and academic performance.



THE WINTER EDITION

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NEWS AND NOTEWORTHY

CHILDREN, HEAT, AND LEARNING: AN URGENT PUBLIC-HEALTH CHALLENGE

In late summer and early fall 2025, news reports from Ontario and Quebec highlighted how extreme heat was affecting students and teachers alike. In some school boards, fewer than one-third of schools have central air conditioning, and as outdoor temperatures climbed toward the mid-30s, students described classrooms that felt “inescapably hot” and “like a sauna,” making it hard to focus, stay hydrated, or even learn effectively. Parents and educators voiced concern that heat is not just uncomfortable but detrimental to learning and safety.

These reports echo a growing national alarm. In April 2025, over 40 health, education, environmental, and advocacy organizations, led by the Canadian Partnership for Children’s Health and Environment (CPCHE) and the Canadian Environmental Law Association (CELA), released a Collective Call for Action calling for urgent government measures to protect children in schools and childcare settings from escalating heat. These organizations emphasize that schools and early learning environments are not prepared for a warming climate. Even temperatures well below extreme heat warnings can impair children’s comfort, hydration, and cognitive performance. Recommendations include adopting indoor temperature standards (e.g., $<26^{\circ}\text{C}$) for learning spaces, improving climate-resilient infrastructure, and integrating heat safety into health and safety regulations.

Heat exposure matters because children are physiologically and behaviorally more vulnerable than adults. Their bodies produce more heat during activity, cool down less efficiently, and they can dehydrate rapidly, yet often do not recognize or communicate early signs of heat stress. This means symptoms of overheating can escalate before adults notice them, increasing the risk of heat-related illness. Beyond physical health, heat also affects learning and emotional well-being. Research links warmer indoor temperatures to declines in attention, working memory, emotional regulation, and school engagement. Students in overheated classrooms report fatigue, irritability, and difficulty concentrating, unsurprising when their bodies and brains are coping with thermal stress. These challenges are amplified in communities where schools lack adequate cooling, shaded outdoor spaces, and resources for adaptation. Without better evidence and action, heat becomes yet another inequality that harms learning and long-term development.



To address these critical gaps, we have launched a multi-year study examining how heat affects children and youth during full school-day exposure and physical activity. We are seeking boys and girls aged 9-16 years. This project is being conducted in collaboration with CELA, CPCHE, Health Canada, the Canadian Public Health Association, and other national agencies, ensuring the research aligns with national priorities and equity considerations.

NEWS AND NOTEWORTHY

CHILDREN, HEAT, AND LEARNING: AN URGENT PUBLIC-HEALTH CHALLENGE

This research will provide the first child- and youth-specific evidence defining safe indoor heat limits, physical activity thresholds, and mitigation strategies. By linking physiological, cognitive, and psychological outcomes during heat exposure, the study will generate actionable guidance for schools, caregivers, and public health officials. Findings will guide policy, optimize indoor learning environments, and protect children and youth equitably, including those in under-resourced communities, helping to ensure that all children and youth can thrive even as heat extremes become more frequent and intense.



If you are interested in learning more about this study or having your child or grandchild participate, we welcome your connection to our team. Together, we can help protect the health, learning, and development of Canadian children in the face of rising temperatures.

Thank you.

Dr. Glen P. Kenny

Director
Human and Environmental Physiology Research Unit



A MESSAGE FROM THE DIRECTOR

BETWEEN EXTREMES: THE HAZARDS AND HEALTH EFFECTS OF HEAT AND COLD

As Director of the Human and Environmental Physiology Research Unit (HEPRU), I want to thank you for your past contributions to our research on heat stress. Your participation has helped us generate the critical knowledge that informs policies protecting Canadians from the growing risks of extreme heat.

Canada is taking a steadfast approach to heat resilience. While our counterparts in the United States have largely halted research and initiatives aimed at protecting communities and workforces, Canada recognizes the reality of climate change and the urgent need to act. HEPRU is the largest research unit in North America dedicated to providing government and industry leaders with the tools and knowledge needed to develop policies that protect Canadians from coast to coast. Our work ensures that communities, workplaces, and vulnerable populations are better prepared to face rising temperatures.



Our current research builds on this foundation and expands its scope. We are studying children and youth, protecting our future generations by defining safe heat limits, activity thresholds, and mitigation strategies. At the same time, we are leading pioneering work to understand how extreme heat affects those living with mental health conditions, including depression, anxiety disorders, and schizophrenia, groups that are among the most vulnerable to heat stress. Our goal is to provide evidence-based strategies to protect their health and well-being.

We also recognize that heat resilience must extend to the workforce, particularly as the Canadian workforce evolves. Older workers remain in physically demanding jobs longer, and more women are taking on roles that were previously underrepresented. Our recent work developing guidelines to protect older workers and women has highlighted the need for continued focus. To that end, we are now leading studies to understand how day-to-day work in heat impacts workers' health, including how they recover when they return home in the evening. The aim is to ensure workers remain healthy over the long term, returning home not exhausted or ill, but well and engaged with their families.

 In addition, many commonly visited high-altitude cities are now experiencing heat extremes. Indeed, sites that were once snow-covered for much of the year are now warming significantly in summer. People visiting or working in these locations face two simultaneous stressors, heat and hypoxia (low oxygen levels), which together can heighten vulnerability and increase the risk of heat-related illness. We are studying these effects, including developing exposure limits for workers under these conditions, which currently do not exist.

A MESSAGE FROM THE DIRECTOR

BETWEEN EXTREMES: THE HAZARDS AND HEALTH EFFECTS OF HEAT AND COLD

Finally, in the fall of 2026, we will begin new work aimed at defining heat guidance for Canadians living in northern communities. These populations are less adapted to heat, and sudden extreme heat events, increasingly frequent due to climate change, place additional stress on health systems and individuals. By identifying safe exposure thresholds and mitigation strategies, we aim to protect these communities and reduce the risk of heat-related illness.

We welcome your ongoing involvement and unparalleled support in helping us continue this work. Together, we can help make all communities safe during hot weather and heat extremes, safeguarding children and vulnerable populations, protecting workers, and ensuring a climate-resilient future for Canada.

Dr. Glen P. Kenny

Director
Human and Environmental Physiology Research Unit



IN THEIR WORDS WITH KEN KLASSEN

HEAR FROM OUR STUDY VOLUNTEERS ABOUT PARTICIPATING IN OUR RESEARCH STUDIES

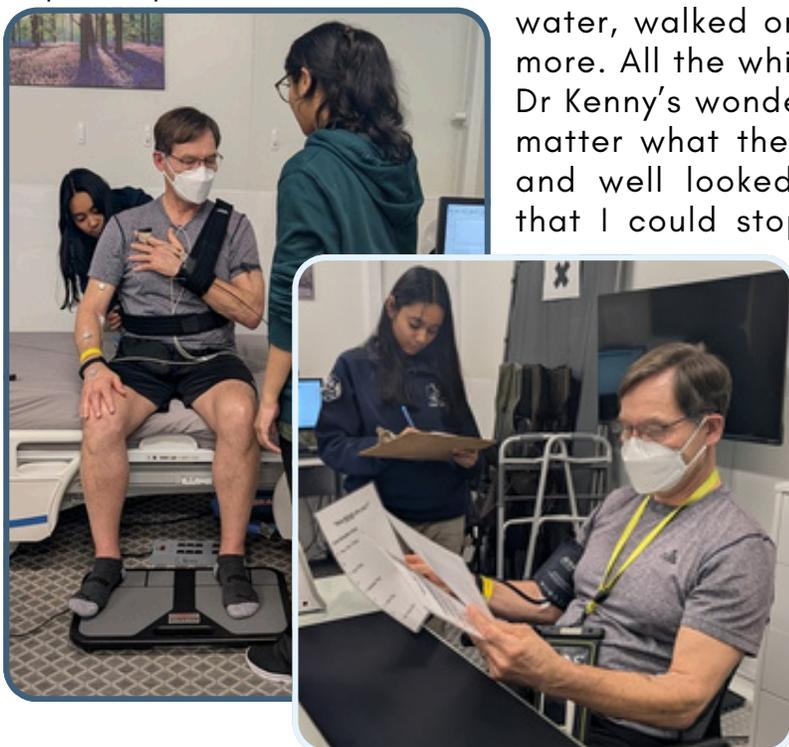
I am Ken Klassen and I have been participating in HEPRU Studies at Ottawa University for several years now. My initial interest was sparked by my wife who had participated in a study. She mentioned it might be something I would be interested in, so I tried a study. They were looking at the difference between drinking a cold or hot drink when exercising in heat. As with many studies they started with a VO2 Max test. This is a test to measure your body's ability to consume oxygen during exercise. This provides the team with your cardiorespiratory fitness and aerobic capacity. After that, I got put in the calorimeter, a large metal cylinder, and rode a stationary bike in the heat while stopping at various times to consume a cold or hot beverage. All the while being monitored for multiple parameters like heart rate, breathing and if I am not mistaken the amount I was sweating. I found it very interesting to be part of a scientific study that was looking at advancing our knowledge of how the body works.

I mean in 2026 with all the years of scientific investigation we must be understanding everything, right? Apparently not and there is still so much that we don't. It's this drive by the team at HEPRU to ask the questions and test to understand the results that interests me the most. If I can provide some of my time to assist in advancing scientific understanding, then I am all in. I have participated in several studies where I have been dunked in cold water, hot

water, walked on a treadmill in the heat and many more. All the while I have met many members of the Dr Kenny's wonderful team. I would also say that no matter what the study was I always felt in control and well looked after. Additionally, I always felt that I could stop at anytime if I did not feel like

continuing. So, if advancing science interests you or you feel this is something you would like to try contact HEPRU or Dr Kenny. There is bound to be a study that will pique your interest.

Ken Klassen



FRESH OFF THE PRESS

The effect of increasing levels of hyperthermia on autophagy and cellular stress in peripheral blood mononuclear cells from young adults

James J. McCormick, Kelli E. King, Kate P. Hutchins, and Glen P. Kenny



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The efficacy of foot and neck cooling on autophagy and cellular stress responses in peripheral blood mononuclear cells from older adults exposed to extreme heat

James J. McCormick, Kelli E. King, Emma R. McCourt, Robert D. Meade, and Glen P. Kenny



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The efficacy of fan use on autophagy and the cellular stress response during prolonged exposure to extreme heat in older adults: a randomized trial

Kelli E. King, James J. McCormick, Fergus K. O'Connor, Robert D. Meade, and Glen P. Kenny



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Staying cool during heat exposure

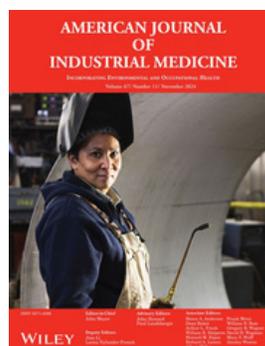
Fergus K. O'Connor, Glen P. Kenny and Robert D. Meade



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Defining Sex- and Age-Specific Initial Stay Times for Continuous Moderate-Intensity Work in Hot Environments Before Heat-Mitigation Controls Are Implemented - Part A.

Fergus K. O'Connor, Kristina-Marie T. Janetos, Brodie J. Richards, Roberto C. Harris-Mostert, Katie E. Wagar, Leonidas G. Ioannou, James J. McCormick, Robert D. Meade, Emily J. Tetzlaff, Ronald J. Sigal, W. Shane Journey, Glen P. Kenny



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Defining Sex- and Age-Specific Initial Stay Times for Continuous Heavy-Intensity Work in Hot Environments Before Heat-Mitigation Controls Are Implemented-Part B

Fergus K. O'Connor, Kristina-Marie T. Janetos, Brodie J. Richards, Roberto C. Harris-Mostert, Katie E. Wagar, Leonidas G. Ioannou, James J. McCormick, Robert D. Meade, Emily J. Tetzlaff, Ronald J. Sigal, W. Shane Journey, Glen P. Kenny



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FRESH OFF THE PRESS

Brain-derived neurotrophic factor in peripheral blood mononuclear cells from healthy adults following acute aerobic exercise and a 6-hour recovery in temperate and hot environments

Nicholas Goulet, James J. McCormick, Kelli E. King, Naoto Fujii, Tatsuro Amano, and Glen P. Kenny



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Influence of Sex on Whole-Body Heat Exchange Following Cold Beverage Ingestion During Work-Rest Cycles in the Heat

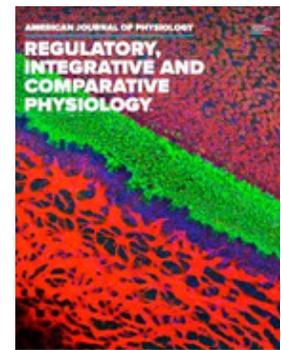
Brodie J. Richards, Fergus K. O'Connor, Nicholas J. Koetje, Kristina-Marie T. Janetos, Gregory W. McGarr, and Glen P. Kenny



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Serum endothelial monocyte-activating polypeptide-II response after 9 h of passive heat exposure: influence of age, diabetes, or hypertension

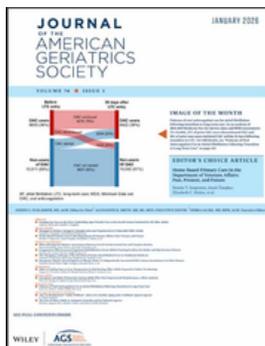
W. Shane Journeay, James J. McCormick, Kelli E. King, Joel M. Garrett, Fergus K. O'Connor, Kate P. Hutchins, Robert D. Meade, and Glen P. Kenny



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Effect of Ceiling Fans on Core Temperature in Bed-Resting Older Adults Exposed to Indoor Overheating

Fergus K. O'Connor, Robert D. Meade, Kristina-Marie T. Janetos, Caroline Li-Maloney, Ronald J. Sigal, Pierre Boulay, and Glen P. Kenny



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Effects of sex and heating rate on skin blood flow oscillations during local heating in young adults

Gregory W. McGarr, Caroline Li-Maloney, Ashley P. Akerman, Naoto Fujii, Tatsuro Amano, and Glen P. Kenny



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Effect of foot immersion and neck cooling on renal, intestinal, immune and inflammatory markers in older adults exposed to extreme heat

Thomas McCarthy, Ben J. Lee, James J. McCormick, Kelli E. King, Emma R. McCourt, Luana C. Main, Robert D. Meade, Glen P. Kenny

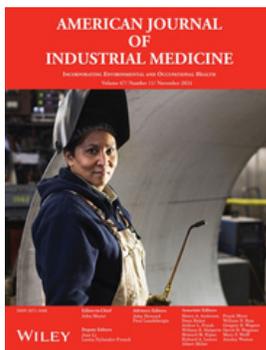


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FRESH OFF THE PRESS

Developing and Refining a Knowledge Assessment Instrument for Individuals Involved in Managing Occupational Heat Stress: Paper A

Emily J. Tetzlaff, Bruce E. Oddson, Kristina-Marie T. Janetos, Robert D. Meade, Glen P. Kenny



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An Evaluation of Health and Safety Personnel and Workers' Occupational Heat Stress Knowledge in Ontario: Paper B

Emily J. Tetzlaff, Bruce E. Oddson, Kristina-Marie T. Janetos, Robert D. Meade, Glen P. Kenny



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Updating Health Canada's Heat-Health Messages for the Environment and Climate Change Canada Heat Warning System: A Collaboration with Canadian Experts

Emily J Tetzlaff, Melissa MacDonald, Glen P Kenny, Brittany Murphy, Rachel F Siblock, Ahmed Al-Hertani, Rebecca C Stranberg, Peter Berry, Melissa Gorman



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Predicting Cardiorespiratory Fitness with a Cycle Ergometry Equation in Middle-Aged and Older Adults at Low and High Risk of Cardiovascular Disease

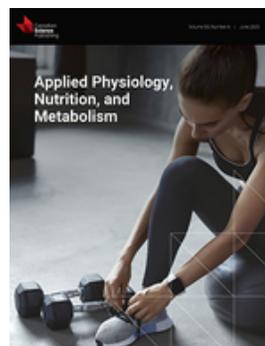
Pierre Boulay, Ahmed Ghachem, James J. McCormick, Glen P. Kenny



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The influence of heat acclimation on the relation and agreement between perceptual and physiological strain in older males during exercise-heat stress

Kristina-Marie T. Janetos, Fergus K. O'Connor, N. Morris, Glen P. Kenny



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HEPRU TEAM HIGHLIGHT

MEET OUR MASTER'S STUDENTS

MEET TASFIA HUSSAIN



Tasfia Hussain completed her Honours Bachelor of Health Sciences degree at the University of Ottawa. During her undergraduate studies, she completed an honours thesis examining the effects of working outdoors during consecutive heatwave days, with the goal of improving occupational heat-stress guidelines. Through her work at the Human and Environmental Physiology Research Unit (HEPRU), Tasfia has contributed to a wide range of studies exploring heat stress at the cellular and whole-body physiological levels. These experiences deepened her understanding of the complex and multifactorial nature of heat

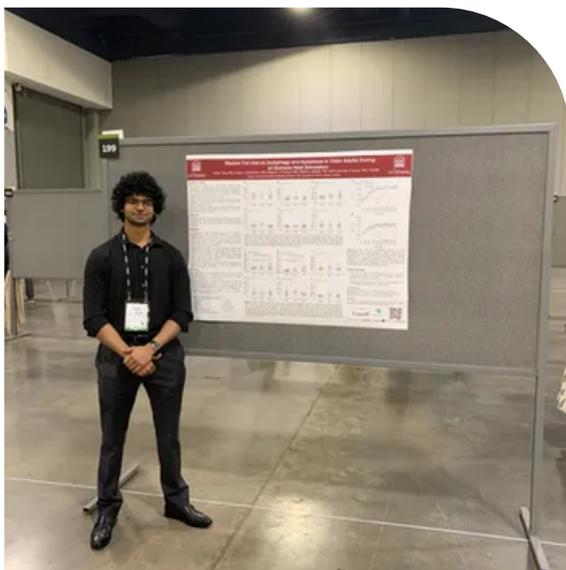
stress and reinforced the importance of research that informs real-world health policy. Motivated by a commitment to evidence-based strategies that protect populations in a warming world, Tasfia began her Master's degree at HEPRU in September 2024. Her thesis focuses on evaluating safe indoor temperature thresholds for older adults, with the aim of informing guidelines that better protect heat-vulnerable populations. In addition to her thesis work, Tasfia has contributed to research on oxidative stress and skin blood flow during exercise, cellular responses to heat stress, and the physiological effects of prolonged exposure to high indoor temperatures during multi-day heatwaves. During her master's studies, she has been awarded the Ontario Graduate Scholarship. She has also had the opportunity to present her research at the 2025 American College of Sports Medicine Annual Meeting in Atlanta. Following graduation, Tasfia hopes to bring the skills she has developed into a clinical care setting while continuing to contribute to research that improves health outcomes for diverse populations.



**Read more about Tasfia's research
assessing heat stress during exercise [here](#)**

HEPRU TEAM HIGHLIGHT

MEET ARCHANA WEERAOORIYA



Archana Weerasooriya is a second-year Master's student in the Human and Environmental Physiology Research Unit (HEPRU) at the University of Ottawa, under the supervision of Dr. Glen Kenny. He completed his undergraduate degree in Biomedical Sciences and developed an early interest in how environmental conditions influence human health and performance. His current research focuses on understanding how heat stress and reduced oxygen availability interact to alter thermoregulation, cardiovascular strain, and recovery during work and exercise.

For his thesis, Archana is leading a controlled laboratory study examining the independent and combined effects of moderate hypoxia and heat exposure on physiological responses. This project uses environmental chamber exposures designed to simulate realistic occupational scenarios in regions that experience both high altitude and frequent heatwaves. By measuring variables such as core temperature, heart rate, and oxygen saturation, his work aims to determine how reduced oxygen availability modifies tolerance to heat stress and recovery dynamics. Through this research, Archana hopes to improve the scientific basis of occupational heat-stress guidelines and contribute to safer recommendations for workers exposed to complex environmental conditions.

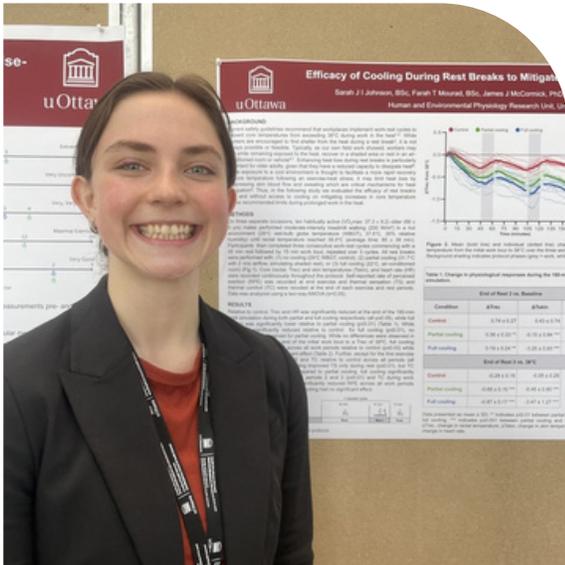


Read more about Archana's research exploring heat stress and cooling centers [here](#)



HEPRU TEAM HIGHLIGHT

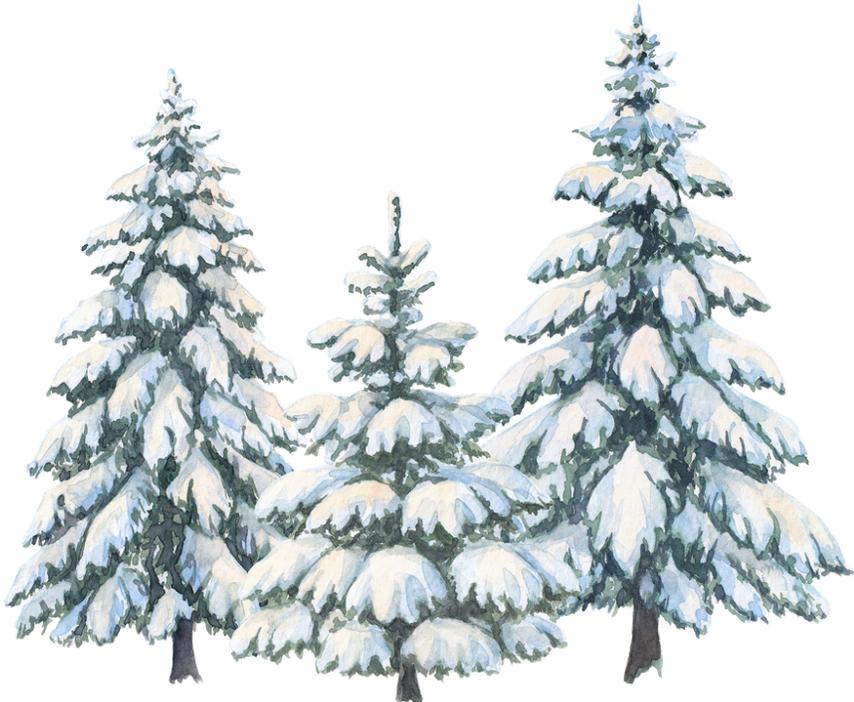
MEET SARAH JOHNSON



Sarah Johnson is a first-year Master's student in Human Kinetics and a long-standing member of the Human and Environmental Physiology Research Unit. She has been part of the HEPRU for the past four years, where she completed her Undergraduate degree in Health Sciences. Her Honours project, *The Effect of Full and Partial Cooling Breaks on Core Temperature and Cardiovascular Strain in Young and Older Males Performing Moderate-Intensity Work in the Heat*, was conducted at the HEPRU and focused on evaluating cooling strategies to mitigate physiological strain during work in hot environments.

Sarah is now excited to begin her Master's thesis, titled *Cumulative Physiological Strain Across Consecutive Workdays With and Without Overnight Cooling in Young and Older Males*, which will build on her previous work by examining how repeated heat exposure and recovery conditions influence thermoregulatory and cardiovascular responses. Fun fact: since joining the HEPRU, Sarah has participated in more than 10 research studies as a participant. Outside the lab, she enjoys running, rowing, and painting.

Read more about Sarah's research evaluating changes in circulating proteins during cold exposure [here](#)



HEPRU TEAM HIGHLIGHT

MEET JEFFREY KUMMER

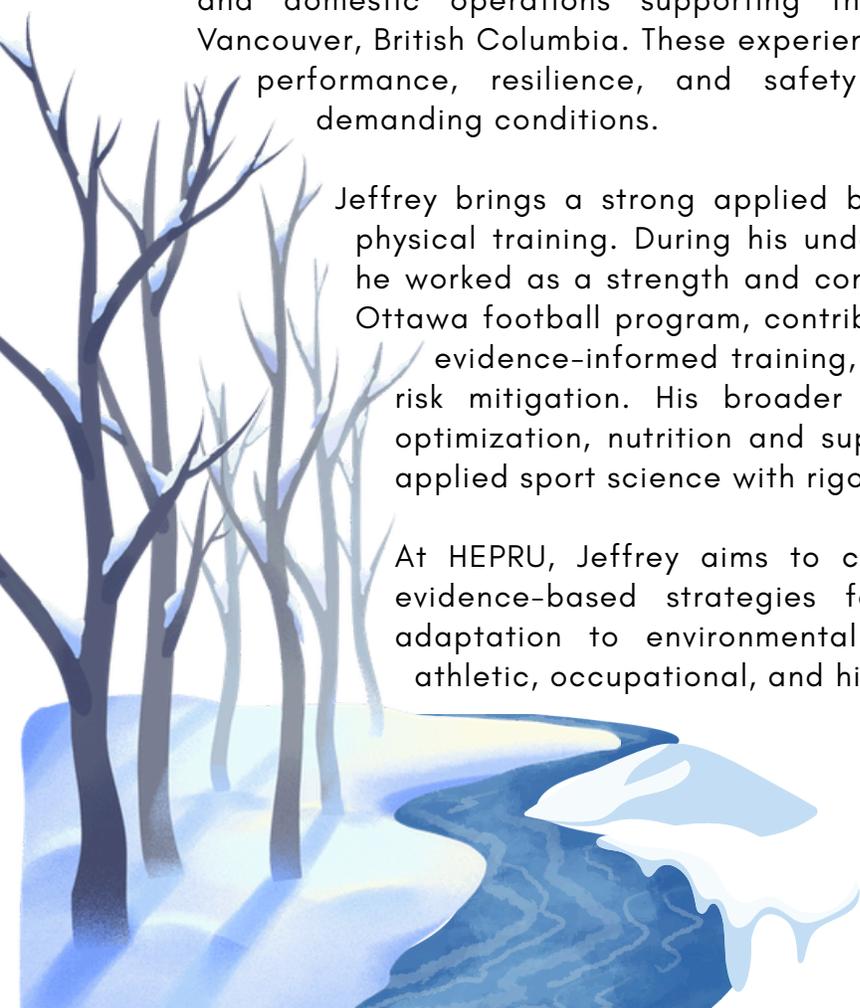


Jeffrey Kummer is a first-year Master of Science student in Human Kinetics at the University of Ottawa and a member of the Human and Environmental Physiology Research Unit (HEPRU). His research interests lie in exercise and environmental physiology, with a particular focus on the physiological responses and adaptations to heat and hypoxic stress, and their implications for human health, performance, and safety.

Prior to his graduate studies, Jeffrey served in the Canadian Armed Forces in the infantry and as a close protection operator, including operational deployments to Afghanistan (2008, 2011, 2012) and domestic operations supporting the 2010 Winter Olympic Games in Vancouver, British Columbia. These experiences shaped a strong interest in human performance, resilience, and safety in physically and environmentally demanding conditions.

Jeffrey brings a strong applied background in sport performance and physical training. During his undergraduate studies in Human Kinetics, he worked as a strength and conditioning coach with the University of Ottawa football program, contributing to athlete development through evidence-informed training, performance enhancement, and injury risk mitigation. His broader interests include sport performance optimization, nutrition and supplementation, and the integration of applied sport science with rigorous physiological research.

At HEPRU, Jeffrey aims to contribute to research that advances evidence-based strategies for improving human tolerance and adaptation to environmental stressors, with applications across athletic, occupational, and high-risk populations.



HEPRU TEAM HIGHLIGHT

MEET PRISHA BARAL

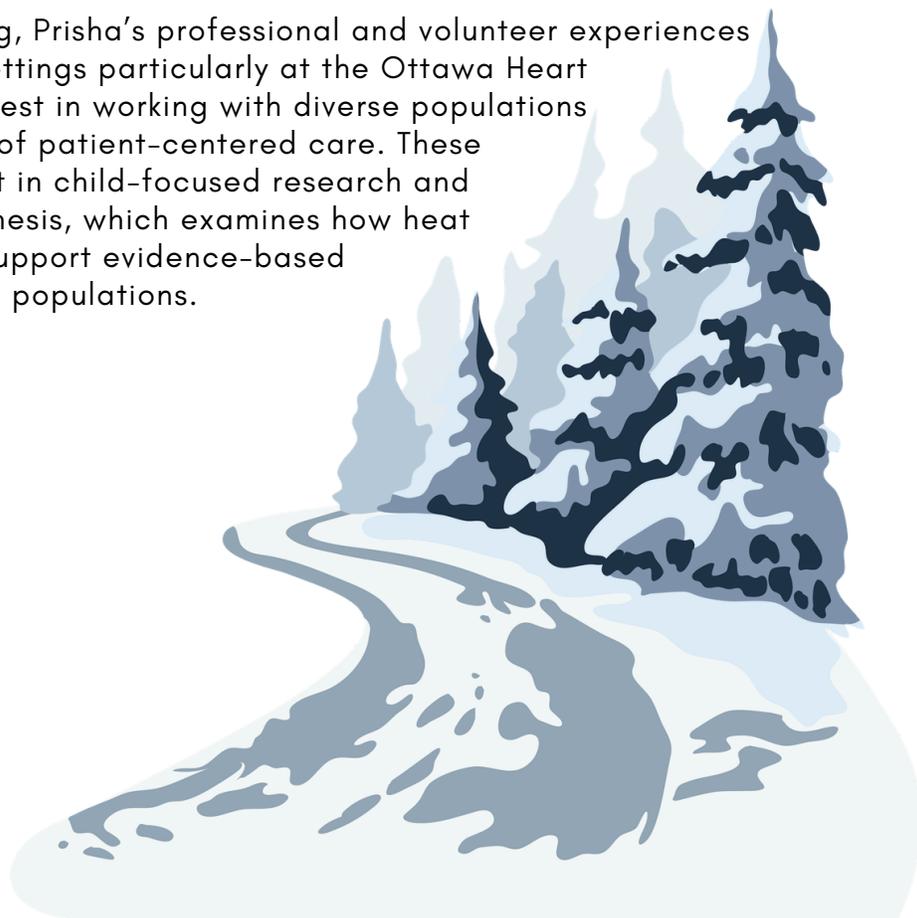


Prisha Baral is a first-year Master's student in Interdisciplinary Health Sciences at the University of Ottawa, having begun her program in September 2025. She completed her Honours Bachelor's degree in Health Sciences in 2025, developing a strong foundation in health research and interdisciplinary approaches to health and well-being.

As an Honours Research Student at the University of Ottawa, Prisha conducted an in-depth study examining the effects of mental fatigue on motor learning to better understand cognitive-motor interactions.

Since starting her Master's program, she has also assisted with multiple research studies and is currently co-leading a pilot on how heat impacts children, gaining additional experience in participant testing, data collection, and research coordination.

Alongside her academic training, Prisha's professional and volunteer experiences in healthcare and community settings particularly at the Ottawa Heart Institute, strengthened her interest in working with diverse populations and reinforced the importance of patient-centered care. These experiences shaped her interest in child-focused research and informed her current Master's thesis, which examines how heat exposure impacts children, to support evidence-based strategies to protect vulnerable populations.



HEPRU TEAM HIGHLIGHT

MEET TASFIA HOSSAIN



Tasfia Hossain is a first- year master's student at the Human and Environmental Physiology Research Unit. She completed her Honours bachelor's degree in health sciences at the University of Ottawa in 2025, specializing in Population and Public Health. She embarked on my research journey during my Honours thesis at the HEPRU lab, where she investigated the modulation of cutaneous vasodilation by reactive oxygen species during exercise-induced heat stress in young adults. Through this project, Tasfia gained extensive hands-on experience in human participant testing and advanced physiological methodologies under controlled

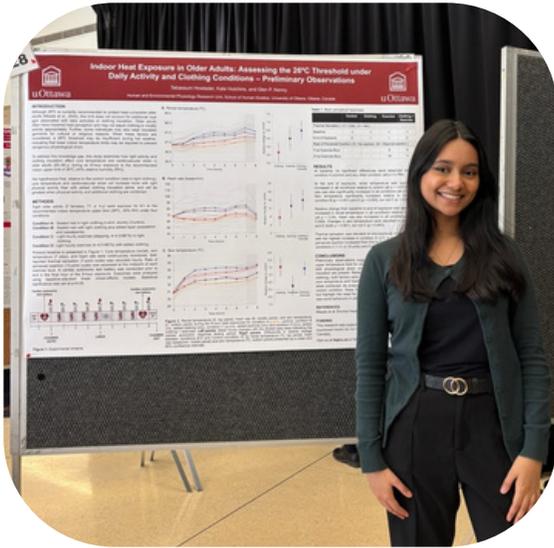
thermal conditions.

Tasfia's current research as a master's student focuses on studying the impact of heat on children. Through her experiences as a PLASP Child Care Service volunteer and a teacher volunteer with the SPDA Children's Education Mentorship Program, she developed a strong and lasting passion for working with children. She hope to contribute towards informing evidence-based strategies to protect their health and well-being in the context of rising environmental temperatures.



4TH YEAR HONOURS PROJECT

The University of Ottawa fourth-year Honours project is a capstone research experience across several majors, and in our lab it brings together students from disciplines such as Translational and Molecular Medicine, Health Sciences, and Human Kinetics to gain firsthand experience in the research process.



Tabassum Howlader stands beside her research poster at the Faculty of Medicine, presenting findings from her Honours thesis project in the Human and Environmental Physiology Research Unit.

Tabassum Howlader is a fourth-year student in the Human and Environmental Physiology Research Unit completing her undergraduate studies in Translational and Molecular Medicine. As part of her Honours thesis project, she recently presented a poster at the Faculty of Medicine on her research exploring indoor heat exposure, where her work was well-received by faculty members, researchers and peers.

Her project examined whether the current proposed indoor upper temperature limit of 26°C is sufficient to protect heat-vulnerable older adults when lifestyle factors, such as activities of daily living and additional clothing insulation, are taken into account. Using an 8-hour laboratory protocol, she assessed how these conditions influence core temperature, cardiovascular strain and thermal perception in adults aged 65–85, highlighting their impact on heat strain during indoor heat events.

Through this experience, Tabassum gained hands-on exposure to the research process, from conducting experimental trials to data collection and analysis, while working closely with older participants in a laboratory setting. As this was her first time working extensively with physiological data, she became increasingly comfortable interpreting measures of thermal and cardiovascular strain, developing a stronger foundation in human physiology. She also established a deeper understanding of how physiological data can inform public-safety guidelines, while refining her ability to communicate scientific findings to new audiences. Moving forward, Tabassum is excited to complete her Honours project and continue building her skills as a researcher.



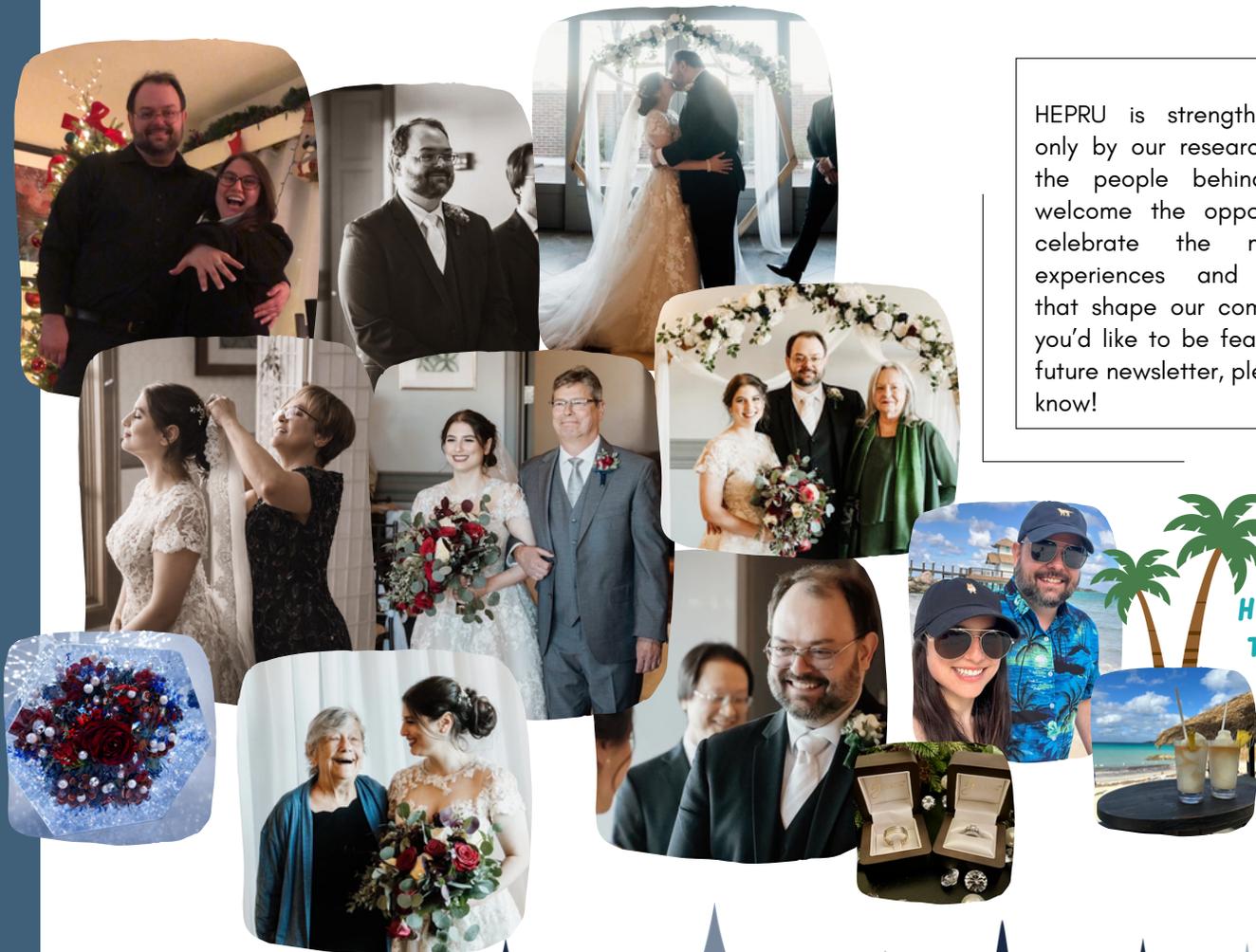
A HEPRU WEDDING

On December 6, 2025, lab members Kelli and Jeremy were married in Albuquerque, New Mexico, marking a personal milestone within the research team. After eight years together, their marriage reflects a long-standing partnership that has grown alongside their shared work in the lab. They are grateful for the support of colleagues, students, and research participants who contribute to the collaborative environment of the lab.



**Congratulations to
Drs. Kelli & Jeremy McCormick!**

HEPRU is strengthened not only by our research, but by the people behind it. We welcome the opportunity to celebrate the meaningful experiences and moments that shape our community. If you'd like to be featured in a future newsletter, please let us know!



**HONEYMOON IN
THE BAHAMAS**



RECRUITMENT CORNER

ASSESSING CHILDREN AND YOUTH IN THE HEAT

Extreme heat is an increasing concern for children's health and well-being, particularly in schools and childcare settings without adequate cooling. As climate change progresses, children are being exposed more frequently to hot indoor environments, where their vulnerability to heat stress is heightened by less efficient thermoregulation, increased heat production during activity, and reliance on adults to recognize early signs of overheating. Heat stress can negatively affect children's physical health and cognitive functioning, including concentration, memory, and problem-solving, and may also disrupt mood, behavior, sleep, and daily routines. Despite growing awareness of these risks, our understanding of how heat exposure physiologically affects children remains limited, making it difficult to develop clear, evidence-based guidelines to protect them in educational and home settings. To address this gap, researchers at the Human and Environmental Physiology Research Unit, led by Dr. Kenny, are recruiting children aged 10-15 years to participate in a study examining how indoor heat exposure affects children's physiological and cognitive responses. The study involves three laboratory visits: one preliminary

fitness assessment and two full-day sessions simulating a school day in indoor heat (26 °C and 36 °C). During the study, researchers will monitor body temperature, heart rate, blood pressure, hydration, and complete brief cognitive tasks. Findings from this research will help inform evidence-based recommendations for indoor temperature limits in schools and childcare facilities to better safeguard children's health in a warming climate.

We are looking for individuals who meet the following criteria:

- Children 10-15 years of age
- May be physically active but not engaged in intense exercise training programs.

Please contact Dr. Glen Kenny at gkenny@uottawa.ca to participate.





RECRUITMENT CORNER

INVESTIGATING THE IMPACT OF ACUTE HYPOXIA AND HEAT ON OCCUPATIONAL PERFORMANCE AND HEALTH

Occupational environments characterized by both heat stress and high altitude pose significant health and performance challenges. Workers exposed to these combined stressors, such as those employed in regions with high elevations and frequent heat waves, are particularly susceptible to impaired physical performance, diminished cognitive function, and increased risk of heat- and hypoxia-related illnesses (e.g., heat exhaustion, heat stroke, acute mountain sickness).

Despite the prevalence of such combined environmental stresses, current occupational guidelines often address hypoxia and heat stress independently, neglecting the interplay between these factors. This oversight potentially places individual living and working at altitude at greater risk of experience adverse health outcomes due to inadequately informed guidance on the impacts of heat at altitude and the mitigation strategies that should be implemented.

Our research aims to address this critical gap by examining the physiological and cellular responses to concurrent acute hypoxia and heat exposure, seeking insights to inform more

effective occupational safety standards and practices. The outcomes of this study will directly contribute to better protecting the health and performance of workers in challenging environmental conditions.

We are looking for individuals who meet the following criteria:

- Men and women aged 18-30 or 60-75 years
- Healthy, habitually active (not endurance trained)

Please contact Dr. Glen Kenny at gkenny@uottawa.ca to participate.

Learn more about our occupational heat stress research at www.hepru.ca



Heat tolerance and the validity of occupational heat exposure limits in women during moderate-intensity work



Initial stay times for uncompensable occupational heat stress in young-to-older men: a preliminary assessment



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