



Research Practicum Projects 2026/2027
Faculty of Health Sciences
HLSC/KINE 4998/4999U

Project Application Name: Cole
Project Title: Identifying staff perceptions of school vape detectors
Research Preceptor(s): Dr. Adam Cole
Number of Available Positions: 2
Location: Ontario Tech University North Campus (Remote)
Project Description: Vaping is common in Canada, particularly among youth. Even though vaping is prohibited at school, many students and school staff report seeing other students vaping in school bathrooms and classrooms. Vape detectors are novel devices that use sensors to detect aerosol in enclosed spaces where cameras are not appropriate, making them a potentially useful tool to help schools identify students who are violating school policies and local laws. However, there is a lack of evidence for the use of vape detectors in schools. This research project will investigate school staff perceptions of vape detectors. Staff at high schools in Ontario that have installed vape detectors will be invited to participate in one-on-one virtual interviews to describe their experiences detecting student vaping using vape detectors, challenges and benefits of vape detectors, and student discipline.
Key Roles for Students: Literature Review, Data Collection/Analysis, Interviewing, Scientific Writing
Special Requirements/Eligibility: Eligible for HLSC and KINE students. Knowledge of qualitative methods is an asset.

Project Application Name: Barakat 1
Project Title: Endocrine disrupting chemicals in personal care products
Research Preceptor(s): Dr. Caroline Barakat
Number of Available Positions: 3
Location: Ontario Tech University North Campus (Hybrid)
Project Description: Phthalates and Bisphenol A are universal endocrine-disrupting chemicals present in plastics, cosmetics, and fragranced personal-care products that are heavily marketed to young women. These products constitute everyday exposure pathways that are patterned by gendered consumer environments, marketing, and campus-based lifestyles, yet existing evidence on phthalates, BPA, and premenopausal women's hormonal or menstrual health is fragmented and methodologically inconsistent. Two positions relate to gathering and evaluating the evidence about the health impacts of these chemicals. Knowledge gained will be used to create a toolkit which educates and brings awareness of these chemicals to the general population. The third position involves assisting in the development of the app through the Wix platform.
Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing, Knowledge Translation, App development, Tech design
Special Requirements/Eligibility: Eligible for HLSC students. Experience with tech design and/or app development, excellent communication skills, experience with Wix platform are assets.

Project Application Name: Barakat 2
Project Title: Girl sport participation intervention study
Research Preceptor(s): Dr. Caroline Barakat
Number of Available Positions: 2
Location: Ontario Tech University North Campus (Hybrid)
Project Description: Students will support an ongoing project on girl sport participation during the data analysis and knowledge translation phases of a pre-post intervention study. This includes assisting with data organization, preparing descriptive summaries of baseline and follow-up survey data, and supporting the preparation of tables and figures comparing outcomes across intervention and control groups. The RP students would also assist with literature synthesis to help contextualize findings and contribute to the development of plain-language summaries and knowledge translation materials related to the intervention toolkit.
Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible to HLSC students.

Project Application Name: Kesler & Zhu
Project Title: Integrating anchor institutions into a high performing health system
Research Preceptor(s): Dr. Maya Kesler & Dr. Lynn Zhu
Number of Available Positions: 1
Location: Hybrid (Remote & Downtown Toronto)
<p>Project Description: The Ontario Hospital Association’s Health Policy and Applied Research Lab (“The Lab”) have taken on special research projects with a focus on the role of hospitals within civil society, what a modern view of high performing health systems is, among other emerging pressing issues facing domestic and global health systems.</p> <p>One opportunity to foster a high performing health system is through a novel idea of “hospital as anchor institutions”. Anchor institutions are typically large, long-standing organizations situated within local communities that use their resources to support local public health systems. Hospitals do this when they actively partner with community and public health organizations to engage in health promotion activities (e.g., providing safe affordable shelters, food programs, employment, health education).</p> <p>The Lab is continuing to explore the definition of anchor institutions and its roles within a high performing health system. We are interested in understanding what are the continuum of anchor-like services that can be feasibly implemented by hospitals in Ontario and beyond?</p> <p>The Research Practicum student will work closely with the Health Policy and Applied Research Lab members to contribute to the development of a conceptualization continuum and implementation toolkit with the aim of helping Ontario’s hospitals understand how to implement anchor institution missions.</p> <p>The responsibilities will include but not limited to:</p> <ol style="list-style-type: none"> 1. Assisting with literature scans 2. Assisting with research REB preparation 3. Assisting with preparing of knowledge translation material (may include: lay abstract, briefing reports, presentation for dissemination)
Key Roles for Students: Literature Review, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible to HLSC students.

Project Application Name: La Delfa
Project Title: Laboratory & field-based occupational biomechanics research
Research Preceptor(s): Dr. Nick La Delfa
Number of Available Positions: 2
Location: Ontario Tech University North Campus (In-Person)
Project Description: The Occupational Neuromechanics & Ergonomics Laboratory is seeking interested research practicum students for several ongoing projects. Opportunities are available in projects related to automotive manufacturing (potentially at GM Oshawa), evaluation and validation of inertial and optical motion capture technology, determining overhead work thresholds, understanding the shoulder biomechanics of breast cancer survivors, and/or studying the physical demands of manual massage therapy. There is also opportunity to pursue your own research interests if they are aligned with the capabilities and expertise of the lab.
Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing
Special Requirements/Eligibility: Eligible to KINE students. At least an A- in KINE 2040 (Biomechanics).

Project Application Name: Qadri
Project Title: Comparative mammalian red cell physiology
Research Preceptor(s): Dr. Syed Qadri & Nawal Elshamiy
Number of Available Positions: 2
Location: Ontario Tech University North Campus (In-Person)
Project Description: This Project involves wet-lab work and aims to compare cellular and biochemical characteristics of red blood cells from cows versus humans. Various biochemical assays will be used to examine key signaling pathways in bovine and human RBCs. Learning about these differences will contribute to our understanding on the changes in RBC homeostasis in various bovine diseases.
Key Roles for Students: Grant Writing, Literature Review, Data Collection/Analysis, Scientific Writing
Special Requirements/Eligibility: Eligible for HLSC students. Biosafety and WHIMS certification.

Project Application Name: Eickmeier & Mangroo
Project Title: Trexo at Grandview Kids
Research Preceptor(s): Dr. Taryn Eickmeier & Shantel Mangroo
Number of Available Positions: 2
Location: Grandview Kids - Jerry Coughlan Building (Ajax) (Hybrid)
Project Description: Trexo Robotics is a robotic gait training device for children that supports improvements in gait pattern, strength, and endurance. Preliminary work has been completed to assess the feasibility of Trexo use in paediatric rehabilitation settings. Grandview Kids has acquired a Trexo device, and the next phase of this work aims to support clinicians in implementing its use into physiotherapy practice and exploring its application beyond the clinic, including school and community settings. Objective: This project has two key objectives: (1) conduct a literature review to identify the scope of use of the Trexo and similar exoskeleton devices in clinical settings and associated child health outcomes; and (2) conduct a pre-post intervention with cohorts of clients to measure health outcomes Methodology: This project will include a scoping review, and up to 54 in-person data collection sessions with eligible participants. Students will conduct scoping reviews, collect data, analyze outcomes, and develop knowledge translation products to be shared at Grandview Kids and across the children's treatment, education, and community sectors. Students will also receive Trexo training and shadow Grandview Kids' clinical teams.
Key Roles for Students: Literature Review, Data Collection/Analysis, Surveying, Interviewing, Behavioural Data Collection, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible for KINE students. Vulnerable Sector Check (VSC) through their local police department; completion of The Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) training; compliance with Grandview Kids policies; participation in the Grandview Kids' orientation.

Project Application Name: Partosoedarso
Project Title: Student perception on using 3D human anatomy prints in undergraduate classes
Research Preceptor(s): Dr. Elita Partosoedarso
Number of Available Positions: 3
Location: Ontario Tech University North Campus (Hybrid)
Project Description: We have implemented the use of three dimensional printed models of human bones and hearts in HLSC1200/1201 Human Anatomy and Physiology I/II classes in the 2025-26 year. We hope to expand this to other courses and to print other models. Students involved in this project will gather information as part of the literature review, collect data from students, invigilators and possibly interview a small subset of individuals. The data will form the basis of at least one peer reviewed journal article and most likely a presentation at a relevant international conference.
Key Roles for Students: Literature Review, Data Collection/Analysis, Surveying, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible for HLSC and KINE students.

Project Application Name: Brunton
Project Title: The evidence base for waterbirth
Research Preceptor(s): Dr. Ginny Brunton
Number of Available Positions: 1
Location: Ontario Tech University North Campus (Hybrid)
<p>Project Description: Childbirth with minimal intervention, or 'Physiologic birth' supports positive health outcomes for childbearing people and their newborns. Waterbirth is one option for physiologic birth in low-risk clients currently supported by midwives worldwide. However, the evidence base surrounding this healthcare intervention is disparate and poorly understood.</p> <p>This project aims to collate, analyze, translate and develop the current evidence on waterbirth, to support personal, practice, and policy decisions. Using systematic review methods and other epidemiological methodologies, several projects are underway which could support practicum student involvement.</p> <p>Students will gain key research skills that may support future graduate studies by assisting in systematic reviews (i.e. literature searching, screening, data extraction and critical appraisal), data analysis, proposal development and project management. Exploration of a waterbirth-related topic of the student's interest is encouraged.</p>
Key Roles for Students: Grant Writing, Literature Review, Data Collection/Analysis, Surveying, Interviewing, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible for HLSC and KINE students.

Project Application Name: Gurgis
Project Title: Developing and evaluating the Canadian Handbook of Safe Sport: A Comprehensive Guide for Sport Stakeholders in Promoting Safe Sport Practices
Research Preceptor(s): Dr. Joseph Gurgis
Number of Available Positions: 2
Location: Ontario Tech University North Campus (Hybrid)
Project Description: Despite growing public attention and policy action on Safe Sport in Canada, there is limited evaluation of whether these initiatives are effectively reducing harm. This project examines Canadian sport stakeholders' perspectives on the effectiveness of Safe Sport using an integrated knowledge translation approach and the CIPP evaluation framework. Drawing on perspectives from athletes, coaches, administrators, parents, and officials, the study will identify strengths, gaps, and opportunities for improvement. Findings will inform the co-development of a Canadian Safe Sport Handbook that provides practical guidance on policy, education, reporting, governance, and evaluation to support safer and more inclusive sport environments across Canada.
Key Roles for Students: Literature Review, Data Collection/Analysis, Interviewing, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible to KINE students. TCPS 2 Certificate, Safe Sport Training.

Project Application Name: Banks
Project Title: A systematic review of cardiac outcomes following pharmacological interventions
Research Preceptor(s): Dr. Laura Banks
Number of Available Positions: 3
Location: Ontario Tech University North Campus (Remote)
Project Description: Students will assist with a systematic review investigating sex, race, and age differences in cardiac outcomes following common pharmacological interventions. This may inform guidelines for future therapies. Opportunities to participate in knowledge translation activities and publication (co-authorship).
Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible for HLSC and KINE students.

Project Application Name: Nonoyama
Project Title: Innovations in pediatric respiratory care
Research Preceptor(s): Dr. Mika Nonoyama
Number of Available Positions: 1
Location: Ontario Tech University North Campus (ACE Research Facility) & Hospital for Sick Children (SickKids) (Hybrid)
Project Description: There are two areas the practicum could take place. The first at SickKids: being involved in one of the numerous projects investigating different part of the Lung Health Pathway (artificial airway management; initiation & weaning from mechanical ventilation (MV); extubation; and post-extubation respiratory management). These may include background research (literature review), and data collection retrospectively or prospectively on various respiratory therapy and/or mechanical ventilation interventions in the Critical Care Unit (CCU), the Emergency Department (ED), and/or in-patient hospital units. The second together with the ACE Research Facility take part in a study aiming to determine if it is feasible to measure the direct effects of extreme heat and humidity in children with asthma.
Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing, Knowledge Translation, Aiding with data analysis (qualitative and quantitative); collaborate with graduate student(s), clinical staff, and people with lived experience; developing educational resources. There may also be opportunity for students to do a buddy shift in the Critical Care Unit, ED, and/or hospital units at SickKids (together with staff respiratory therapists), depending on circumstances like workload and patient acuity levels.
Special Requirements/Eligibility: Eligible for HLSC and KINE students. Must be able to work at SickKids for the duration of the research practicum (which requires entry immunizations, police check, mask fit, and initial orientation at the hospital). Must be able to work independently. Foundational knowledge of mechanical ventilation e.g. completion of this course https://www.edx.org/course/mechanical-ventilation-for-covid-19 ASSETS: Minimum A- in HLSC3910 (research methods), experience working with electronic information systems (hospital based preferred) & with data organization; experience in academic/research writing (e.g., research proposals, peer-reviewed publications), experience working with Microsoft Office, especially Excel; knowledge of respiratory physiology and pathophysiology.

Project Application Name: Sanchez
Project Title: Environment & Cancer: Appraisal and dissemination of best evidence
Research Preceptor(s): Dr. Otto Sanchez
Number of Available Positions: 2
Location: Ontario Tech University North Campus (Hybrid)
Project Description: Associations between environmental factors and a rising human cancer incidence are concerning to the community at large, as we are all often exposed to environmental carcinogens. It is important to evaluate the best scientific evidence addressing these potential links, and to effectively communicate this information. This project will allow the student to learn how to appraise environmental research studies and how to integrate their findings with known environmental carcinogenesis concepts. Through literature reviews focusing on meta-analytic studies, the student will be able to construct and disseminate this work through our website.
Key Roles for Students: Literature Review, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible for HLSC students.

Project Application Name: Dogra 1
Project Title: EngAge: Reducing sedentary time in older adults
Research Preceptor(s): Dr. Shilpa Dogra
Number of Available Positions: 2
Location: Ontario Tech University North Campus (In-Person)
Project Description: We will be running a pilot project aimed at reducing sedentary time among older adults either living in the community or living in retirement homes. The purpose of this study is to determine whether participating in the EngAge Program leads to meaningful changes in sedentary time. We will also be looking to see if there are meaningful improvements in functional fitness outcomes. Students will be required to travel to off-campus locations for data collection and will be required to make check-in calls to participants.
Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible to KINE students. Ideal candidates will have taken Kine 3000 and Kine 3200.

Project Application Name: Dogra 2
Project Title: Sedentary physiology
Research Preceptor(s): Dr. Shilpa Dogra
Number of Available Positions: 2
Location: Ontario Tech University North Campus (In-Person)
Project Description: We will be conducting a randomized cross-over laboratory study, as well as an intervention, aimed at improving our understanding of the physiological responses to sedentary behaviour. The laboratory study requires participants to sit in our lab for 4-hour sessions; some sessions are interrupted by movement. Saliva samples will be collected, and cardiovascular measures will be monitored. The intervention study requires participants to limit their daily steps to 5,000 for two weeks. Again, saliva samples will be collected, and cardiovascular measures will be monitored. Students will be trained to support data collection.
Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible to KINE Students. Ideal candidates will have completed Kine 3000 and be registered in courses such as Kine 4412 and Kine 4482

Project Application Name: Dogra 3
Project Title: Age-Friendly LTC
Research Preceptor(s): Dr. Shilpa Dogra
Number of Available Positions: 1
Location: Ontario Tech University North Campus (Hybrid)

Project Description: We are aiming to develop a tool to assess long-term care (LTC) environments. The first step will be gather insights from residents, caregivers, and staff. The second step will include a literature review to inform the first iteration of the tool. This portion of the project is expected to take place between 2026-27.

Key Roles for Students: Literature Review, Data Collection/Analysis, Scientific Writing, Knowledge Translation

Special Requirements/Eligibility: Eligible to HLSC and KINE students. Preference will be given to students with Kine 3200 or a related aging course.

Project Application Name: Quach
Project Title: Respiratory health across the lifespan - Understanding perspectives and needs
Research Preceptor(s): Dr. Shirley Quach
Number of Available Positions: 1
Location: Hospital for Sick Children, McMaster University, Lung Health Foundation (Remote)
Project Description: The research program focuses on respiratory health across the lifespan. Proposed research questions usually enhance our understanding and management of respiratory conditions. These conditions may include acute respiratory illnesses, chronic conditions such as asthma, COPD, lung cancer. Key areas of study include the impact of immunization on reducing the burden of vaccine-preventable respiratory infections, as well as the role of environmental factors—especially air quality—in shaping long-term respiratory outcomes - from the perspective of caregivers and people with lived experiences. Methodologies can include cross-sectional and retrospective studies or knowledge syntheses. Overall, the research program aims to strengthen current evidence to improve population health, and reduce healthcare system pressures through a multidisciplinary approach. The specific project and team members are dependent on the student's interest within the research program outlined.
Key Roles for Students: Literature Review, Surveying, Interviewing, Scientific Writing, Knowledge Translation
Special Requirements/Eligibility: Eligible to HLSC students. Entry immunization form, police check, as required by the Hospital for Sick Children