

BHSc Research Practicum – 2021-22 – Available Projects

Name of Project	Research Tutor	Project Application Name
Age Friendly and Active Neighbourhoods	Dr. Shilpa Dogra, Faculty of Health Sciences	<i>Dogra 1</i>
Sedentary Physiology	Dr. Shilpa Dogra, Faculty of Health Sciences	<i>Dogra 2</i>
Exploring the effects of cognitive and muscle fatigue on upper limb neuromechanics	Dr. Nick La Delfa, Faculty of Health Sciences	<i>La Delfa 1</i>
TBD	Dr. Krystle Martin, Ontario Shores Centre for Mental Health Sciences	<i>Ontario Shores 1</i>
Innovations in Pediatric Respiratory Therapy at the Hospital for Sick Children	Dr. Mika Nonoyama, Faculty of Health Sciences, Sick Kids Hospital	<i>Sick Kids 1</i>
Effects of menthol supplementation during exercise in the heat	Dr. Heather Logan-Sprenger, Faculty of Health Sciences, Canadian Sport Institute Ontario	<i>Canadian Sport Institute 1</i>
Multi-disciplinary education program for elite cyclists	Dr. Heather Logan-Sprenger, Faculty of Health Sciences, Canadian Sport Institute Ontario	<i>Canadian Sport Institute 2</i>
Abilities Centre Research and Program Evaluation	Meagan O'Neill/Tara Joy Knibbe, Abilities Centre	<i>Abilities Centre 1</i>
Training in systematic review methods: Reviews of home birth.	Dr. Ginny Brunton, Faculty of Health Sciences	<i>Brunton 1</i>

Feasibility and Effectiveness of an Online Mindfulness Module for University Students	Dr. Wendy Stanyon, Faculty of Health Sciences	<i>Stanyon 1</i>
Palliative care for heart failure patients and families receiving palliative care support	Dr. Manon Lemonde, Faculty of Health Sciences	<i>Lemonde 1</i>
School-based approaches to address vaping	Dr. Adam Cole, Faculty of Health Sciences	<i>Cole 1</i>
Understanding how immersive technologies impact learning of haptic-based fine motor skills	Brianna Grant & Dr. Bernadette Murphy, Faculty of Health Sciences	<i>Grant/Murphy 1</i>
Impact of Attention-Deficit/Hyperactivity Disorder (ADHD) on sensorimotor integration and motor learning	Heather McCracken & Dr. Paul Yielder, Faculty of Health Sciences	<i>McCracken/Yielder 1</i>
Impact of recurrent neck pain and central sensitization on sensorimotor integration	Nick Antony & Dr. Bernadette Murphy, Faculty of Health Sciences	<i>Antony/Murphy 1</i>
The effect of changing neck sensory input on brain plasticity	Dr. Paul Yielder & Dr. Bernadette Murphy, Faculty of Health Sciences	<i>Yielder/Murphy 1</i>
The Sodium Calculator Plus: A validation study	Dr. JoAnne Arcand, Faculty of Health Sciences	<i>Arcand 1</i>
An assessment of knowledge and awareness related to road safety among high school students	Dr. Amit Arora, School of Science & Engineering Technology, Durham College	<i>Arora 1</i>
Strategy for effective engagement and dissemination of climate change initiatives and its impact on health	Dr. Amit Arora, School of Science & Engineering Technology, Durham College	<i>Arora 2</i>
Improve Service Coordination and Delivery in Community Hubs Serving Homeless and At-Risk Populations	Dr. Winnie Sun, Faculty of Health Sciences	<i>Sun 1</i>

The assessment of cardiovascular drug trial outcomes based on sex, race, and age	Dr. Laura Banks, Faculty of Health Sciences	<i>Banks 1</i>
Evaluating communication methods for promoting quality and patient safety	James Ibbot, Lakeridge Health	<i>Lakeridge 1</i>
Patient Satisfaction with Hospital Patient Experience Process in an urban community emergency department	Dr. Michael K Howlett, Lakeridge Health	<i>Lakeridge 2</i>
Understanding the Health of Special Olympic Athletes: A 2020 Snapshot	Dr. Janet McCabe, Faculty of Health Sciences	<i>McCabe 1</i>

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Shilpa Dogra	Number of Possible Positions: 1
Name of Project: Age Friendly and Active Neighbourhoods	
Project location: City of Oshawa	

Project Description: The purposes of ongoing research projects in this area is to understand the effect of age-friendly neighbourhoods on physical activity levels, social health, and successful aging of older community dwelling adults.
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Possible Roles for Student(s): Students may be involved in the following: Focus groups and interviews with older adults Analysis of epidemiological data Recruitment of participants Writing of a manuscript

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..) Some background or advanced courses in either qualitative research, epidemiology, or aging will be a strength

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Shilpa Dogra	Number of Possible Positions: 1
Name of Project: Sedentary Physiology	
Project location: North Campus	

Project Description: The purpose of this work will be to understand inflammatory responses to prolonged sedentary time compared to prolonged sedentary time interrupted with exercise bursts.
Possible Roles for Student(s): The student will aid with: Participant recruitment Data collection sessions - maximal exercise testing - saliva analysis - other physiological measures Data analysis and manuscript writing
Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..) Upper level Kinesiology students with strong laboratory based skills

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Dr. Nick La Delfa	Number of Possible Positions: 2
Name of Project: Exploring the effects of cognitive and muscle fatigue on upper limb neuromechanics	
Project location: Occupational Neuromechanics & Ergonomics Laboratory	

Project Description:

Both muscle fatigue and prolonged mental exertion are individually linked to deficits in motor performance and strength. However, the combined effects of these exposures are relatively under-explored, which can have tremendous consequences in certain occupations (e.g. dentistry, surgery). Using a neuro-mechanical, laboratory-based approach, this research project will explore the individual and interactive effects of these occupational exposures on upper limb task performance and muscle capacity.

Possible Roles for Student(s):

For this research project, the practicum student(s) will primarily work with graduate students to design and test an experimental protocol in the Occupational Neuromechanics & Ergonomics Laboratory. Your main focus will be data collection and analysis for a portion of the study described above. As such, you will be trained in the use of surface electromyography, motion capture and psychological assessment tools. This skill set will also allow you to help with other studies being collected in the lab. Other responsibilities and tasks will include: initial stages of data analysis, literature integration, attending & presenting in lab meetings and journal club sessions, and participating in manuscript preparation for submission to a peer-reviewed journal.

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

The practicum student will need to have successfully completed Musculoskeletal Biomechanics (HLSC 4471U) & Occupational Ergonomics (HLSC 4475) with a grade of A- or higher.

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Dr. Krystle Martin	Number of Possible Positions: 1
Name of Project: TBD	
Project location: Ontario Shores Centre for Mental Health Sciences	

Project Description:

I currently have several projects that students could join and new opportunities may arise for the next semester. The following are a list of projects that I have ongoing and so typical of studies I usually have students join:

- Exploring the subjective sense of restrictiveness among forensic patients
- Conducting a program evaluation of the Forensic Treatment Mall – a model for intervention
- Examining the use of protective factors in decisions made by the Ontario Review Board
- The use of non-pharmacological strategies to manage anxiety
- Exploring the pre-detention service utilization of individuals found not criminally responsible following a conviction of homicide
- Exploring moral injury in forensic mental health patients
- Examining bias in healthcare documentation
- Examining the relationship between risk for violence and recovery

Possible Roles for Student(s):

Students may be involved in all aspects of the research projects which may include: literature search/review, research ethics application preparation, protocol development, data collection, data analysis, transcription, interpretation of data, manuscript preparation and other knowledge translation activities, etc. Students will be invited to attend other events, meetings, and activities that I participate in such as weekly research team meetings, providing research and evaluation consultations, clinical training initiatives, etc. to observe and learn about conducting research in an applied setting.

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

CPIC with Vulnerable Sector Screening

- Immune Status for:
 - o Hepatitis B
 - o Measles, Mumps, Rubella
 - o Varicella (Chicken Pox)
 - o Tetanus, Diphtheria, Pertussis (Tdap) (if known)
 - o Influenza (or declination)
 - o TB Results, 2-Step and Yearly

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To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Mika Nonoyama	Number of Possible Positions: 1
Name of Project: Innovations in Pediatric Respiratory Therapy at the Hospital for Sick Children	
Project location: The Hospital for Sick Children (SickKids)	

<p>Project Description:</p> <p>The Lung Health Pathway at SickKids' comprises of: artificial airway management; initiation & weaning from mechanical ventilation (MV); extubation; and post-extubation respiratory management. A better understanding of current respiratory support clinical practices & patient outcomes is needed to optimize a child's treatment path. There are currently several potential projects for the research practicum. This includes: data collected retrospectively on various respiratory therapy interventions on patients admitted into the intensive care units, the emergency department (ED), and/or in-patient hospital units; a Delphi survey of respiratory therapy practices across Canada; scoping review of pediatric respiratory therapy practices.</p>
<p>Possible Roles for Student(s):</p> <p>Data extraction and cleaning; aiding with data analysis (qualitative and quantitative); contributing to writing reports; collaborate with graduate student(s), and clinical staff. 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 pandemic restrictions.</p>
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>REQUIRED: Minimum A- in HLSC3910 (research methods); 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)-->note: this will depend on pandemic restrictions; must be able to work independently.</p> <p>ASSETS: 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.</p>

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Heather Logan-Sprenger	Number of Possible Positions: 2
Name of Project: Effects of menthol supplementation during exercise in the heat	
Project location: Canadian Sport Institute Ontario and Ontario Tech ACE facility	

Project Description: The project will investigate the dose-response relationship with menthol supplementation on cycling performance in a hot environment.

Possible Roles for Student(s): The student will gain experience with the entire scientific method; from conducting a mini literature review, to creating a research question, to assisting in data collection and data analysis.

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..) If the research occurs at the Canadian Sport Institute Ontario, the intern will be responsible to get there on their own and go through the Human Resources police check and vulnerable sector assessment.
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Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Heather Logan-Sprenger	Number of Possible Positions: 1
Name of Project: Multi-disciplinary education program for elite cyclists	
Project location: Remote work and some time at the Canadian Sport Institute Ontario (Toronto, ON)	

<p>Project Description:</p> <p>An educational program for developing cycling athletes has been developed through a combination of provincial and national performance services across multiple disciplines (nutrition, strength and conditioning, therapy, and mental performance). This program is designed to improve athlete's knowledge in key areas that are foundational to developing the skills and behaviors that are required to perform at an elite level. The program is delivered in a variety of ways, including pre-recorded and live lectures, interactive workshops, and assignments/quizzes. This project would require the development and administration of an evaluation of the education program's effectiveness across the identified areas of knowledge, and to determine if there is any translation to improvements in skills or behaviors.</p>
<p>Possible Roles for Student(s):</p> <p>The student will be required to work with practitioners and coaches to develop an assessment tool to evaluate the effectiveness of a multi-disciplinary educational program for elite level cyclists. The student will gain experience creating research methods, collecting data, data analysis, and knowledge translation to the coaches and athletes.</p>
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>Some travel may be required to the training location (Toronto TPASC or Milton velodrome). The intern will need to have a police check and vulnerable section check which aligns with the Canadian Sport Institute Ontario's HR policies for volunteers.</p>

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Meagan O'Neill/Tara Joy Knibbe	Number of Possible Positions: 1
Name of Project: Abilities Centre Research and Program Evaluation	
Project location: Abilities Centre, Whitby, ON	

Project Description:

Project Description:
 Abilities Centre will enhance the quality of life for individuals of all ages and abilities through an inclusive environment. Abilities Centre is a fully accessible, state-of-the-art multi-purpose facility that is committed to the development of an inclusive and integrated environment, where respect, understanding, cooperation, innovation, and education form the core values of the facility and the people within.

The Abilities Centre Research and Program Evaluation team is working to provide knowledge on community inclusion, exercise and quality of life for people with disabilities & older adults, family & youth recreation, and community engagement for youth and young adults with autism.

Individuals who are proficient in Microsoft Office products, and pose knowledge of accessibility and accommodation issues is an asset.

Possible Roles for Student(s):

- Assist with research related activities that may include
 - o Conducting review of literature
 - o Data collection
 - o Prepare program evaluation
 - o Knowledge translation materials
- Other duties as assigned

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

Police Check - Vulnerable Sector Screening



Position: **Research Practicum**
Start-End: Fall 2021 – Winter 2022

You Belong Here!

Working as a team, our common goal is to improve quality of life, social and economic inclusion, and health and wellbeing for Canadians of ALL abilities. Together we are shaping the future, constantly looking for ways to improve how we operate, communicate and innovate. Abilities Centre is a workplace where you can learn, develop, be your true self, and have fun, all while realizing your fullest potential.

The Position:

Reporting to the *Manager, Research & Program Evaluation* the *Research Assistant* will assist with research related activities focusing on measuring impact of Abilities Centre programs and services.

Responsibilities:

- Assist with research related activities including conducting review of literature, data collection, and preparing program evaluation & knowledge translation materials
- Work with the Manager and program teams to implement program evaluation in specific areas of research that measure social inclusion, physical activity, health and well-being and quality of life for people of all abilities
- Adhere to confidentiality and privacy processes and protocols while participating in research and program evaluation activities
- Cultivate a member-centred environment through exceptional customer service
- Participate in team meetings and community consultations
- Establish rapport and maintain effective relationships with members, staff, volunteers and community partners
- Foster a work environment that values and encourages teamwork and empowerment
- Discuss any questions or concerns with Manager of Research & Program Evaluation
- Other duties as assigned

Qualifications:

- University or college program (undergraduate/graduate) in the area of physical education / recreation / kinesiology / disability studies / education / psychology / health sciences or other related fields
- Work and/or Volunteer experience an asset
- Knowledge of accessibility and accommodation issues an asset
- Proficient in use of Microsoft Office products
- Excellent communication skills
- Strong interpersonal skills with a customer service focus
- Ability to function equally well independently and as part of an effective team

Do you have the all the right background plus the drive to improve lives by bringing people together to explore opportunities, discover passions, and fulfill aspirations? If so, apply now: ***You Belong Here.***

Abilities Centre is an equal opportunity employer committed to diversity and inclusion; we welcome and encourage applications from all qualified candidates. Accommodations are available on request for candidates taking part in all aspects of the selection process. We thank all who apply, however only those selected for an interview will be contacted.

www.abilitiescentre.org/employment

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Ginny Brunton	Number of Possible Positions: 2
Name of Project: Training in systematic review methods: Reviews of home birth.	
Project location: Largely virtual; some face-to-face team meetings when pandemic restrictions allow.	

<p>Project Description:</p> <p>Research evidence can bring new knowledge to people making decisions about health care. Researchers use the systematic review method to locate, assess and analyze the relevant research in order to bring this knowledge into personal, practice and policy decisions. A recent CIHR-funded scoping review of home birth identified several topics for further evidence synthesis. These include womens' perceptions of rural home birth, the experience of transfer from home to hospital during birth, and policy-makers' views of home birth.</p> <p>This project seeks to provide systematic review training to undergraduate students through their involvement on a qualitative evidence synthesis of stakeholders' views of home birth. Two students are requested to assure the quality of the project, as Cochrane Collaboration guidance suggests that two reviewers are needed for most stages of the systematic review.</p>
<p>Possible Roles for Student(s):</p> <p>Students will assist with the systematic review qualitative evidence synthesis process, supported by the supervisor. This will include searching multiple databases and websites; use of EndNote software; screening of identified references, full text retrieval, data extraction, critical appraisal, synthesis and communication of results. Supported by the Research Tutor at each stage of the project, students will gain specific training in systematic review methods. They will also gain skills in critical thinking, time management and team working.</p>
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>Eligible students will show evidence of:</p> <ul style="list-style-type: none"> • an interest in research and close attention to detail • ability to work independently and as part of a team, consulting regularly with the Research Tutor • a 75+ average in a critical appraisal course • ability to access/search electronic databases (e.g. MEDLINE) and use citation software

Research Practicum Form

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Wendy Stanyon	Number of Possible Positions: 2 students who will work together
Name of Project: Feasibility and Effectiveness of an Online Mindfulness Module for University Students	
Project location: Online - Ontario Tech student population	

Project Description:

Conduct a qualitative research study to explore the experience of university students in cultivating mindfulness using an online mindfulness module previously created by two Ontario Tech University professors and a member of the Teaching and Learning Centre.

Possible Roles for Student(s):

- Identify student population (e.g. students in particular course or program) to participate in the study
- Develop the research questions
- Develop online survey to evaluate the mindfulness module
- Participate in completing the application to the REB
- Conduct the research and analyze the data - each student could analyze the data from their identified student population - the 2 students could compare their results, looking at similarities, differences in their data
- Develop research poster - students could do this collaboratively

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

- Some understanding of the research process
- Level of independence and critical thinking skills (commensurate with being a 4th year university student) (e.g. to determine research questions; to develop the online survey; to conduct the research; to analyze the data etc.)

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Manon Lemonde	Number of Possible Positions: 1
Name of Project: Palliative care for heart failure patients and families receiving palliative care support	
Project location: Virtual	

Project Description:

Palliative care is increasingly becoming recognized as an area of priority in the Canadian health care environment. With the spotlight now in addition to the aging population living with chronic diseases, such as cancer and cardiovascular, it is imperative that research be conducted within the field so that evidence-based findings can support the decisions made in practice and policy.

Palliative care (PC) is the holistic care of patients with life-limiting illnesses focused on relief of suffering and maximizing quality of life for patients and their families. Patients with heart failure (HF) are the largest group eligible for PC services, but only a small percentage of them receive PC.

According to Mosoiu, Rogozea, Landon, Bisoc and Tint (2019) the optimal content and method of delivery of PC interventions to HF patients remain unknown. The integration of PC into existing HF disease management continues to be a challenge.

This project aims to answer the following objectives:

- To examine the content and method of delivery of palliative care to HF patients.
- To identify the barriers and facilitators of delivery of palliative care to HF patients
- To explore tools to help healthcare professionals recognize palliative care needs in patients with heart failure:

Possible Roles for Student(s):

- Literature review- identification of relevant articles for each objective
- Develop a solid search strategy
- Synthesis and critical analysis of the relevant articles
- Development of a research proposal

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

- Scholarly writing skills
- Autonomous and self-directed
- Great organizational skills
- Communication: effective and regular

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Adam Cole	Number of Possible Positions: 2
Name of Project: School-based approaches to address vaping	
Project location: Oshawa North Campus	

Project Description: Vapes (also referred to as e-cigarettes) have received increasing public attention, particularly as the use of these devices has increased dramatically among youth populations in Canada. The school environment is a unique setting of influence where youth spend the majority of their waking hours on weekdays and where they can be influenced by programs, policies, and peers. At the school level, clear policies and consistent enforcement can help to discourage vaping on school property. At a class level, teachers are natural partners in the delivery of school-based health education programs given their daily interactions and relationships with students. However, the rapidly changing evidence for the health impacts of vaping makes it difficult for educators to be informed about the latest scientific evidence when teaching their class. An evaluation specialist at Public Health Ontario will provide additional supervision support for this project.
Possible Roles for Student(s): -conducting literature review -collecting data -critically reviewing education resources and documents -summarizing findings into a report -presenting findings to stakeholders
Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..) None

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Bernadette Murphy and Brianna Grant	Number of Possible Positions: 2
Name of Project: Understanding how immersive technologies impact learning of haptic-based fine motor skills	
Project location: Ontario Tech Human Neurophysiology Lab (North Campus UAB 356)	

<p>Project Description:</p> <p>The sense of touch is critical to performing daily activities and learning new skills. As virtual and augmented realities (VR and AR) become increasingly common training tools across various occupations, it becomes necessary to understand how we learn and retain haptic skills while using these immersive technologies. This project focuses on tactile- and force-based fine motor skills of the hands and fingers. Using theories from behavioural and rehabilitation sciences, the aim of the current study is to understand how brain activity and muscle force is modulated during gamified sensorimotor tasks.</p>
<p>Possible Roles for Student(s):</p> <p>Students who participate in this project will assist in recruiting and collecting data on participants, as well as performing data analysis. Some tasks include:</p> <ol style="list-style-type: none"> 1) acquire skills in collecting electromyography (EMG) and force data, 2) acquire skills in collecting electroencephalography (EEG) data to record electrical activity from the brain to study sensorimotor processing, 3) acquire skills in analysis of EMG, EEG, and behavioural data, 4) build skills in statistical analysis and data presentation, and 5) develop skills in communicating with research participants, including explaining the project summary when obtaining informed consent.
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>Students in the kinesiology program who have completed Human Anatomy and Introduction to Movement Science and are enrolled in or completing Motor Control with strong grades are eligible to apply.</p>

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Paul Yelder and Heather McCracken	Number of Possible Positions: 2
Name of Project: Impact of Attention-Deficit/Hyperactivity Disorder (ADHD) on sensorimotor integration and motor learning	
Project location: Ontario Tech Human Neurophysiology lab (North Campus UAB 356)	

<p>Project Description:</p> <p>Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder that can affect individuals from childhood through to adulthood. ADHD is associated with a number of unique neurophysiological structural and functional alterations, in addition to the well-noted behavioral characteristics, such as hyperactivity, impulsivity, and inattention. It is hypothesized that the combination of neurological and behavioral alterations present in those with ADHD, may have important implications for the process of sensorimotor integration and motor learning, greatly impacting their interactions on a day-to-day basis. The aim of the current study is to understand whether sensorimotor integration is altered in those with ADHD, including how this will impact their ability to learn and consolidate a novel motor skill.</p>
<p>Possible Roles for Student(s):</p> <p>Students who participate in this project will assist in recruiting and testing participants, as well as performing data analysis.</p> <p>They will:</p> <ol style="list-style-type: none"> 1) acquire skills in collecting electromyography (EMG) data. 2) acquire skills in using electroencephalography (EEG) to record electrical activity from the brain in response to somatosensory evoked potentials (SEPs) to study sensory processing. 3) acquire skills in data analysis of EMG, EEG, and SEP data. 4) build on skills in statistical analysis and data presentation. 5) develop skills in communicating with research participants, including explaining the project to obtain informed consent.
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>Students in the kinesiology program who have completed Anatomy and Introduction to Movement Science and are enrolled in or completing Motor Control with strong grades are eligible to apply.</p>

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To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Bernadette Murphy and Nick Antony	Number of Possible Positions: 2
Name of Project: Impact of recurrent neck pain and central sensitization on sensorimotor integration	
Project location: Ontario Tech Human Neurophysiology lab (North Campus UAB 356)	

<p>Project Description:</p> <p>Neck pain and dysfunction is often linked to pain and fatigue in the upper limb. One hypothesis is that the changes in sensory input due to neck dysfunction affects the way the brain processes incoming sensory input from the upper limb leading to altered motor function, which then initiates a cycle of pain and fatigue. Central sensitization refers to maladaptive neuronal plasticity occurring within the spinal cord and supraspinal centers. Central sensitization may be an underlying mechanism in the development of chronic pain, and may have implications for improper neuromuscular control. The aim of the current study is to understand how both central sensitization and treatment of neck dysfunction using spinal manipulation alters sensorimotor integration and motor control.</p>
<p>Possible Roles for Student(s):</p> <p>Possible Roles for Student(s): Students who participate in this project will assist in recruiting and testing participants, as well as performing data analysis. They will:</p> <ol style="list-style-type: none"> 1) acquire skills in collecting multi-channel EMG data. 2) Acquire skills in using TMS to excite the motor cortex to activate muscle and/or skills in using somatosensory evoked potentials (SEPs) to study sensory processing by the brain 3) acquire skills in data analysis of EMG, TMS and/or SEP data 4) build on skills in statistical analysis and data presentation 5) develop skills in communicating with research participants, and explaining the project to obtaining informed consent
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>Students in the kinesiology program who have completed Anatomy, Introduction to Movement Science and are enrolled in or completing Motor Control with strong grades are eligible to apply.</p>

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(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Paul Yelder/Bernadette Murphy	Number of Possible Positions: 2
Name of Project: The effect of changing neck sensory input on brain plasticity	
Project location: EEG and neuroimaging lab (North campus)	

<p>Project Description:</p> <p>Neck pain and fatigue affects sensory feedback from the spine to the brain, and can affect the brain's ability to blend information coming from other senses, affecting co-ordination and the ability to learn new movements. This research uses a state of the art eye tracking system to measures changes in the way the output of cerebellum is affected by in neck pain and fatigue. This work will measure the vestibulo-ocular and cervico-ocular reflexes, and hand-eye coordination in individuals with and without neck pain, and before and after neck muscle fatigue. The VOR and COR keep the eyes on target despite head and/or body movements that include the head, whether these movements are self-produced or externally imposed.</p>
<p>Possible Roles for Student(s):</p> <p>Students who participate in this project will assist in recruiting and testing participants, as well as performing data analysis. They will:</p> <ol style="list-style-type: none"> 1) acquire skills in collecting eye-tracker data collection and analysis. 2) measuring upper limb kinematics 3) Learn to measure spatial and temporal error in maintaining target fixation throughout head movement. 4) build on skills in statistical analysis and data presentation 5) develop skills in communicating with research participants, and explaining the project to obtaining informed consent.
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>Students in kinesiology stream who have completed Anatomy and Introduction to Movement Science and are enrolled in or completing Motor Control with strong grades are eligible to apply.</p>

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To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: JoAnne Arcand	Number of Possible Positions: 2
Name of Project: The Sodium Calculator Plus: A validation study	
Project location: Ontario Tech University	

Project Description:

Excess dietary sodium intake causes hypertension and is the most significant dietary risk factor for mortality from cardiovascular disease and stroke. On average, Canadians consume almost double the recommended amounts of sodium. Several studies also show that Canadians have misconceptions and lack knowledge about dietary sodium, which may be compromising effective action in sodium intake reduction. The Sodium Calculator Plus (SC+) is a newly developed low cost, technology-based tool that provides users with in-depth personalized assessment and feedback about the amount and sources of dietary sodium. It builds upon the research team's past work in developing the highly successful Sodium Calculator screening tool. The objective of this study is to validate the use of the SC+ as a reliable tool to measure dietary sodium, compared to the two 24-hour urine collection and 3-day food records. Participants will complete two 24-hour urine collections and a 3-day food record to assess sodium intake. They also will complete an online sodium KAB questionnaire. Recruitment for this study is underway.

Possible Roles for Student(s):

The student will work as part of an interdisciplinary research team that includes graduate students, research assistants and physician collaborators. The student will assist with participant recruitment, protocol implementation, and data collection, entry, analysis and reporting. The student will participate in weekly research team meetings, and lab meetings with Dr. Arcand's trainees.

Due to a high volume of student interest, only students with a GPA of 3.6 or higher in the past 2 years will be considered at this time. A student will be successful with this research project if they:

- are interested in nutrition research and received at least an A- in an undergraduate nutrition course.
- are detail-oriented.
- are able to think critically.
- are self-directed, take initiative and are resourceful and responsive.
- are professional and have excellent written and verbal communication skills.
- are able to work both independently and as part of a team.

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

None

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Amit Arora	Number of Possible Positions: 2 - 4
Name of Project: An assessment of knowledge and awareness related to road safety among high school students	
Project location: Virtual/Online	

<p>Project Description:</p> <p>The 2030 Agenda for Sustainable Development, Goal 3- Good Health and Well Being, sets targets to address road traffic injuries. According to World Health Organization, road traffic crashes result in the deaths of approximately 1.35 million people around the world each year, and around 20 and 50 million people with non-fatal injuries. Vulnerable road users including pedestrians, cyclists and motorcyclists bear a large proportion of the overall injury burden. Road traffic injuries (RTI) are the eighth leading cause of death for all age groups. RTIs are now the leading killer of people aged 5-29 years. In addition to health-related consequences to the victim, their families suffer economic burden, loss of productivity due to short term and long-term disability and lifelong implications for families who lose their members.</p> <p>Through this research we intend to connect and engage with our youth to gather their insights on road safety, transportation choices and other behaviours to make our roadways safe. This is critical as we promote and encourage safe and a sustainable mode of transportation for all ages and abilities.</p>
<p>Possible Roles for Student(s):</p> <p>This study explores knowledge and awareness related to road safety among high school/post-secondary students.</p> <p>Some of the tasks will include-</p> <ol style="list-style-type: none"> 1. Conduct literature review 2. Search, collect and retrieve related information, using a variety of resources. 3. Identify and Interview stakeholders 4. Develop and implement a pilot survey for students 5. Consolidate research findings <p>Create a repository of available/ existing resources around road use and mode choices</p>
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>The ideal student would have strong interpersonal skills, be a good communicator, tactful and have the ability to work independently.</p> <p>Familiarity with use of online surveys and other online media and engagement techniques will be an asset.</p>

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Amit Arora	Number of Possible Positions: 2 - 4
Name of Project: Strategy for effective engagement and dissemination of climate change initiatives and its impact on health	
Project location: Virtual/Online	

Project Description:

Climate Action, one of the 17 United Nations (UN) Sustainable Development Goals, invokes urgent action to combat climate change and its impacts. According to a UN report, Carbon dioxide (CO₂) levels and other greenhouse emissions are on the rise. Climate change is having a major impact on all aspects of life. Some of these include increasing land and ocean heat, rising sea levels, melting ice caps and changes in biodiversity. Changing weather patterns with extreme events of heat, rain and snow are getting more common. These are further interfering with socio-economic development, human health and food security.

The pandemic has given an opportunity to revisit our actions with a new lens. This requires improved understanding and urgent actions to address not just the ongoing pandemic, but also the climate emergency.

Through this research, we intend to engage with the youth in a conversation on the subject of climate change and develop effective communication. This will equip the future generation with the knowledge, as well as preparing them as stewards in advancing and taking steps towards creating a more sustainable future.

Possible Roles for Student(s):

Students will provide recommendations on dissemination of climate change curriculum that will increase youth involvement in climate change initiatives.

Some of the tasks will include-

1. Conduct literature review
2. Search, collect and retrieve related information using a variety of resources.
3. Identify and Interview stakeholders
4. Develop and implement a pilot survey for students
5. Consolidate and publish research findings

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

The ideal student would have strong interpersonal skills, be a good communicator, tactful and have the ability to work independently.

Familiarity with use of online surveys and other online media and engagement techniques will be an asset.

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Dr. Winnie Sun	Number of Possible Positions: 1
Name of Project: Improve Service Coordination and Delivery in Community Hubs Serving Homeless and At-Risk Populations	
Project location: Ontaro Tech University; Mission United Inner City Hub	

Project Description:
 Temporary community hubs created in response to the COVID-19 crisis, providing wraparound support services to homeless and at-risk populations in Durham, have proven valuable. There is a desire to investigate the best ways to establish permanent (perhaps mobile) community hubs for homeless and at-risk populations.

Objective
 To identify gaps in knowledge and services within community hub models serving homeless and at-risk populations
 To improve the coordination and delivery of services within community hub models serving homeless and at-risk populations

Possible Roles for Student(s):
 Student may participate in the following activities:

1. Assist with the implementation of environmental scan:
2. Literature review of hub models and best practices (local, national and international).
3. Implementation of survey of hub model service users and service providers
4. Conduct key Informant interview (community hub experts)
5. Identification of key outcome measures, and development of an evaluative matrix that will help to inform the new model of care

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)

1. Have experience or interest in working with vulnerable populations (ie. homeless populations)
2. Knowledge about harm reduction
3. Possess good oral communication and writing skills
4. Have experience or interest in qualitative interviews and data analysis

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Dr. Laura Banks	Number of Possible Positions: 2
Name of Project: The assessment of cardiovascular drug trial outcomes based on sex, race, and age	
Project location: Ontario Tech University (North Campus / Virtual)	

Project Description: This independent research project will evaluate the outcomes of currently-published cardiovascular drug trials to determine if differences exist when sex, race, and age are considered.
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Possible Roles for Student(s): To conduct a review of the literature; To read and collect data based on original research in the area of cardiovascular medicine and science with a focus on randomized controlled trials; To conduct basis data entry and statistical analyses; To assist with abstract and manuscript preparation.

Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..) Experience with conducting online searches for academic journal articles (e.g. PubMed); Experience with reading and interpreting data from original research articles; Advanced statistical knowledge (asset, but not required); Demonstrated academic achievement (Willing to provide unofficial transcript)
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Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: James Ibbott	Number of Possible Positions: 1
Name of Project: Evaluating communication methods for promoting quality and patient safety	
Project location: Lakeridge Health - Oshawa (primarily)	
Project Description: This project will first understand what research and evidence from other hospitals is available to support effective methods of communication to promote quality & safety in a hospital setting with a specific focus on multi-site organizations. The the student will work with the Quality & Risk team to deploy and evaluate communication methods related to preparation and awareness of a multi-site accreditation survey planned for May 2022.	
Possible Roles for Student(s): The student will have an opportunity to work with a Clinical Quality & Safety Leader, Communications Specialists and Clinical Leadership to develop communication methods (e.g. newsletters, social media posts and videos) to promote awareness regarding quality and safety practices. As well, literature review, data collection, analysis and evaluation of communication methods deployed will be undertaken.	
Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..) General orientation and all normal on-boarding requirements.	

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Michael K Howlett MD	Number of Possible Positions: 1
Name of Project: Patient Satisfaction with Hospital Patient Experience Process in an urban community emergency department	
Project location: Lakeridge Health	

<p>Project Description:</p> <p>Population: patients and consented advocates presenting to the ED over one year and submitting written complaints to the patient experience office at LHO, where a response is requested.</p> <p>Intervention: patient experience office coordinated approach, with coordinator, department heads, nursing management input.</p> <p>Comparison: before and after process improvements, demographics, this is a baseline survey to evaluate service.</p> <p>Outcome: levels of satisfaction with process factors, confidence in potential for change, demographic analysis, in complaint numbers, types, level of satisfaction over time.</p> <p>This is a retrospective analysis of the value patients or their advocates place on the patient experience process and may serve as a baseline for future evaluation of needs and success of the program.</p>
<p>Possible Roles for Student(s):</p> <p>literature review hypothesis development methodology design data collection tools and sources contacting patients or advocates (for discussion, requires Privacy access, could require training) for data collection data synthesis and reporting structure authorship process possible small grant writing. developing a research team. the complete process is longer than two terms. the project would involve a manageable component of the process above.</p>
<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>basic literature searches spreadsheet/data sheet design contacting patients who have been disgruntled may require some communication skills. Privacy process. Lakeridge on-boarding requirements</p>

Research Practicum Form

To be completed by Research Tutor

(please submit to Jennifer.Chaskavich@ontariotechu.ca by February 8, 2021)

Name of Research Tutor: Janet McCabe	Number of Possible Positions: 1
Name of Project: Understanding the Health of Special Olympic Athletes: A 2020 Snapshot	
Project location: Remote	

<p>Project Description:</p> <p>This project aims to understand the self-reported health promotion behaviors and health status of Special Olympics athletes that participated in the 2020 Special Olympic Canada National Games held in February 2020, via secondary analysis of data collected using the Healthy Athlete's Health Promotion Survey (attached) as an aspect of participating in the Health Promotion Discipline of their Healthy Athletes event.</p> <p>Specifically the project will answer the following research questions:</p> <ol style="list-style-type: none">1. What is the distribution of BMI (informed by the Canadian Guidelines for Body Weight Classification) of underweight, normal weight, overweight, and obese (class I,II, and III)? Does this distribution differ between geographic regions and/or sport and/or gender?2. What is the distribution of blood pressure (informed by the Canadian classification), of low normal, normal, high normal, and hypertension (stage 1, 2, and 3)? Does this distribution differ between geographic regions and/or sport and/or gender?3. What is the self reported physical activity of athletes? Does this differ between geographic regions and/or sport and/or gender?

<p>Possible Roles for Student(s):</p> <ul style="list-style-type: none">- participation in a larger research team (monthly meetings and discussion)- Data analysis- engagement in publication of articles related to the questions.
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<p>Special Requirements: (i.e. Entry Immunization Form, Police Check, specialized skills etc..)</p> <p>No specific requirements</p>
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