Supervisor Contact Information	Research Project and Supervisor Preferences/Student Requirements
Dr. Shabnam Asghari Family Medicine Email: Shabnam.Asghari@med.mun.ca	**Research Area: Primary Healthcare, Rural Medical Education, Healthcare Innovation** The team at the Centre for Rural Health Studies (CRHS) works to build capacity for rural health research. As part of this, faculty on the team work with rural physicians to develop new research ideas and facilitate their research projects. Students, with directed supervision, may assist with a number of related duties, including completing literature searches, writing/drafting, and performing data analysis, as required. • Interested in students in the 2nd, 3rd or 4th year of their program with a background in art and design, kinesiology, psychology, neuroscience, sociology, social work, nursing or geography (GIS). Will give consideration to students from other fields as well. • Students must be good writers. They will assist with KTE activities including infographics, pamphlets, and other course materials. • Students should have some experience with the research process and scholarly writing. This could come from coursework.
Dr. Renelle Butt Family Medicine Email: renellebutt8@gmail.com	**Research Area: Family medicine – population intervention** This project will create an intervention for Primary care medicine waiting room to see if influence attitudes and habits towards physical activity in a population. The student would be involved in literature searches, administrative work, and other activities as required. • Interested in students of any background in the 2nd year of their program or higher.
Dr. Marisa Chard Medical Genetics Email: marisa.chard@nlhealthservices.ca	**Research Area: Clinical Metabolic Genetics** This project is to evaluate care coordination at the Metabolic Clinic within the Provincial Medical Genetics Program at NL Health Services. A nurse care coordinator was hired in November 2023. The goal of this part of the project is to complete a chart review of the metabolic patients (about 100 patients), comparing their care targets 1 year before the nurse was hired to 1 year after. This will be done by accessing Meditech (approval will be required) and entering data into an Excel file. Ethics has already been approved for this project • Students in any science program at any program level.
Dr. Anne Drover Pediatrics Email: adrover@mun.ca	We wish to study the long-term outcomes of teenagers who have been exposed to substances in pregnancy. • Interested in students from Science, Pharmacy or Medicine preferably in their 2nd or 3rd year of their program. • Some prior research experience is preferred.
Dr. Graham Fraser BioMedical Sciences Email: graham.fraser@med.mun.ca	**Research Area: Cardiovascular and Renal Sciences** This project will focus on oxygen and cardon dioxide mediated mechanisms of microvascular blood flow regulation, specifically as it relates to conducted signaling originating at the capillary level. • 3rd or 4th year preferred but 2nd year considered from any program of study: Biology, Biochemistry, Engineering, Kinesiology, Physics, Mathematics, etc. are all suitable. • A basic science background is all that is required. • Prior research experience is not necessary but animal handling and general lab experience is an asset. Training for summer students in all areas needed for their project will be provided.
Dr. Curtis French BioMedical Sciences Email: v77crf@mun.ca	The student will help to create mutant zebrafish, using CRISPR/CAS9 gene editing. Mutations in genes that cause Dravet Syndrome (a severe form of epilepsy) will be created, with downstream behavioral analysis and drug screening performed. • Students who have completed their 2nd year, but this is not required.
Dr. Wendy Graham Family Medicine Email: wendy.graham@med.mun.ca	**Research Area: Primary Healthcare, Rural Medical Education, Healthcare Innovation** The team at the Centre for Rural Health Studies (CRHS) works to build capacity for rural health research. As part of this, faculty on the team work with rural physicians to develop new research ideas and facilitate their research projects. Students, with directed supervision, may assist with a number of related duties, including completing literature searches, writing/drafting, and performing data analysis, as required. • Interested in students in the 2nd, 3rd or 4th year of their program with a background in art and design, kinesiology, psychology, neuroscience, sociology, social work, nursing or geography (GIS). Will give consideration to students from other fields as well. • Students must be good writers. They will assist with KTE activities as well as including infographics, pamphlets and other course materials. • Students should have some experience with the research process and scholarly writing. This could come from coursework.

Dr. Ken Hirasawa BioMedical Sciences Email: kensuke@mun.ca	**Research Area: Programmed cell death and cancer therapy** Most cancer cells undergo programmed cell death (PCD) during radiotherapy, which can be non-immunogenic or immunogenic. Non-immunogenic PCD occurs without eliciting immune responses, whereas immunogenic PCD of cancer cells results in the release of tumor-specific antigens along with inflammatory mediators that activate neighboring immune cells. Therefore, inducing immunogenic PCD has the potential to elicit a strong immune response against cancer cells. Our research goal is to target PCD cell signaling mechanism to promote immunogenic over non-immunogenic PCD can significantly improve the efficacy of radiotherapy by recruiting anti-tumor immunity, which would limit disease recurrence and prolong survival. • Interested in students in their 2nd year of their program or higher from biochemistry, biology or chemistry. • We are looking for a student who is motivated in becoming a medical researcher in the future and a good team player.
Dr. Michiru Hirasawa BioMedical Sciences Email: michiru@mun.ca	**Research Area: Neuroscience** Chemotherapy is a standard cancer treatment used to treat many cancers, but its toxic side effects can negatively impact the well-being of cancer patients and survivors. Cognitive impairment (chemobrain) is a common side effect of chemotherapy, with no effective treatment. Out project aims to understand the mechanisms underlying chemobrain and test potential treatments in animal models, which may lead to new therapeutic strategies for chemobrain. • Interested in students in any year of their neuroscience-related program (behavioral neuroscience, psychology, biochemistry or biology). • No specific skillset necessary but previous research experience would be an asset. • Strong interest in research, ability to work in a team environment and professionalism is required.
Dr. Jo-Anna Hudson Medicine - Pediatrics Email: Joanna.hudson@nlhealthservices.ca	**Research Area: Neonatology** When a premature infant is born the first few days are critical as the infant transitions to life outside the uterine environment. This transition requires a delicate balance of fluids and electrolytes. How the infant responds in these early days can have long term associations with outcomes. This project looks to capture these variables in the premature neonates in the NICU through NLHS and determine any correlations with outcomes. • Students from any program who have completed 2 years of their undergraduate degree preferred. Prior research experience not necessary.
Dr. Anthony Incognito BioMedical Sciences – Cardiovascular & Renal Sciences Email: aincognito@mun.ca	**Research Area: Cardiovascular autonomic regulation (clinical)** Quantifying brain blood flow and cognitive function in individuals with autonomic dysfunction (e.g., orthostatic intolerance, orthostatic hypertension, multiple sclerosis, Parkinson's disease). • Interested in students in any program year from these areas: human bioscience, human kinetics, behavioral neuroscience or psychology. • Prior research experience not necessary.
Dr. Sahar Iqbal Medicine Email: sjiqbal@mun.ca	Impact of the Epidemic of Loneliness on Diabetes control in adults. • Interested in students in any program year with a background in biochemistry or psychology. • Must be able to interact with study participants and have strong writing skills.
Dr. Qutuba Karwi BioMedical Sciences Email: qutuba.karwi@mun.ca	**Research Area: Cardiovascular metabolism** The failing heart is an engine out of fuel. This project will focus on understanding why the failing heart runs out of fuel to generate its power and whether we can improve fuel use in the failing heart by using different diets or medications. This project includes using animal models, cell models, Western Blots, advanced imaging techniques and other techniques. • Students in their 3rd, or 4th year in Biochemistry or Biology preferred. • A basic science background is required. • Prior research experience is not necessary but curious minds and interest in biomedical research preferred.

Dr. Julia Lukewich Nursing (Medicine cross-appointment) Email: jlukewich@mun.ca	**Research Area: Nursing within Team-Based Primary Care** In Newfoundland & Labrador (NL), the widespread implementation of team-based primary care is still in its early stages. Strategies to optimize the nursing workforce within Family Care Teams (FCTs) are required to ensure success. An understanding of nurses' transition to practice experiences and their contributions within FCTs in NL is necessary and is the purpose of this study using a qualitative descriptive approach. We have a rich data set with many potential secondary research questions that can be analyzed and translated into evidence (e.g., manuscripts, conference presentations, etc.). The student will identify a topic by reviewing the node reports and consulting with the project team members, prepare a manuscript for publication. • Qualitative research (analysis/interpretation) and strong writing skills is required. Experience with publication and/or health research in the area of primary care are an asset. Proficient in the English language. • Prior qualitative research experience (i.e., analysis of interview data) is necessary. We have a rich data set with many potential secondary research questions that can be analyzed and translated into evidence (e.g., manuscripts, conference presentations, etc.).
Dr. Robert McCarthy Emergency Medicine/Family Medicine Email: r.mccarthy@mun.ca	**Research Area: Rural Family Medicine/Geriatrics** We are doing a mixed methods study exploring reasons why readmission among geriatric patients is a prevalent issue in our region (Burin Peninsula). • Students from any program who have completed 2 years of their undergraduate degree preferred. • Experience with chart audit/ethics application process would be an asset. Must be self-directed.
Dr. Joseph Olajide BioMedical Sciences Email: joseph.olajide@mun.ca	Sex-driven modifiers at the cellular level and molecular domains significantly influence Alzheimer's disease (AD) onset and progression. Through our studies utilizing rodent models, prospective student will be involved in exploring how variations in neuron-glia vulnerability contribute to the heightened AD incidence in females compared to males. • This research is ideal for 3rd year students or those who have completed their 3rd year. Highly motivated 2nd year students are also encouraged to apply. • Students with a background in life/biological sciences are generally preferred; opportunity is open to anyone with a keen sense of curiosity. • Comprehensive training and supervision will be provided to all students. Prior research experience will be beneficial but not essential.
Dr. Ed Randell Laboratory Medicine Email: erandell@mun.ca	**Research Area: Evaluation of appropriate use of clinical laboratory tests by physicians** This project determines whether initiatives to improve use of laboratory tests by physicians were effective in maintaining long term changes in test ordering behavior. The project focuses on commonly ordered laboratory tests like vitamin D, vitamin B12, liver function tests, parathyroid hormone, plus others. This study will also determine whether there is evidence of overuse of other tests warranting efforts for utilization management initiatives. • Students who have completed their 3rd year of biochemistry preferred. • Good knowledge of basic statistics, use of MS Excel is required. Good written and communication skills preferred.
Dr. Elhamy Samak Family Medicine Email: elhamy.samak@live.com	**Research Area: The retention rate of primary care international medical graduates in Newfoundland & Labrador (NL)** Recruiting and retaining family physicians in regional, rural, and remote communities is a challenge for many countries. International medical graduates (IMGs) are a crucial source of new physicians for Canada, the United States, and Australia. Researchers from NL revealed that after three years of starting practice in NL, only 25% -45% of IMGs remained in the province. Since then, NL has been working to recruit and retain IMGs. This study aims to determine the retention rate over the past decade. The source of data will be the CPSNL website. The study will include IMGs practicing Family Medicine in NL during the specified time periods. The student will assist with data collection from the CPSNL website.

Dr. Tevye Stachniak BioMedical Sciences Email: tstachniak@mun.ca	**Research Area: Neuroscience** The autism risk gene, Elfn1, contributes to epilepsy in mouse models. We will measure the spread of activity in wildtype and Elfn1 knockout brain tissue using multi-electrode array recordings. We will then measure how the spread of activity is reduced by the presence of anti-epileptic drugs targeting different GABA receptor subunits. • Students who have completed 3rd or 4th year in a program relating to biological sciences are preferred. Engineering or physics students with an interest in electrophysiology are also welcome. • No previous research experience required.
Dr. Anil Zechariah BioMedical Sciences Email: azechariah@mun.ca	**Research Area: Vascular Biology/Neuroscience** The central nervous system (CNS) is immersed in the cerebrospinal fluid (CSF) produced by the epithelial cells of the choroid plexus (CP). In addition to the production of CSF, CP also actively synthesize and secrete diverse signaling molecules that influence critical brain functions including neurogenesis and energy homeostasis. Ion channel activation is essential to the secretory functions of CP as they transport the integral elements required for the synthesis of the CP secretome. Calcium entry and signaling is thus, a crucial component of this mechanism but remarkably, the regulators of this process remain largely undetermined. The current project will investigate the changes in gene expression through RNA sequencing using CP samples collected from differentially aged (young, middle-aged and old) mice. Specific experiment will delineate the changes in gene expression with age and will help us identify key molecular players that influence the aging induced changes in choroid plexus function. Preference will be given to students from biological sciences. • Preference will be given to interested in students in any program year from science/medicine disciplines. • Basic knowledge in RNA sequencing and/or western blotting is an added advantage but not a requirement. • Prior research experience is preferred but not necessary.