SSuRe Program Job Postings

Applicants, please include the SSuRe program application form, cover letter, CV, transcript(s), and one reference letter when applying to SSuRe program positions.

Application deadline: January 31st, 2021

Dr. Anna Goldenberg (Genetics and Genome Biology)

Goldenberg lab has a wide variety of computational projects. We are looking for students that are strong in computational areas, interested in machine learning. The student will be responsible for doing data analysis, researching and helping out with a project that aligns with their interest. Our PI, Machine Learning specialist and a senior member of our lab will be guiding this student or students through the projects and providing learning/mentorship throughout the summer.

How to apply
Include a brief description on what they are interested in working on in terms of projects, what courses they have taken that are applicable, if they have worked on any projects in the past that are applicable and related papers/assignments they have submitted.

Email: Freda Lai freda.lai@sickkids.ca

Dr. Avram Denburg (Child Health Evaluative Sciences)

Opportunities on various projects, including:
- comparative analysis of pediatric cancer drug access in East Africa
- precision oncology policy analysis
- value framework for pediatric health technology assessment

How to apply
Email: Avram Denburg avram.denburg@sickkids.ca

Dr. Donald Mabbott (Neurosciences and Mental Health)

Students will work closely with graduate students and staff on ongoing studies. Their roles and responsibilities may include i) processing brain images (MRI and/or MEG), ii) participating in weekly lab meetings, and iii) conducting literature reviews, amongst other study related tasks.

How to apply
Email: mabbott.lab@sickkids.ca
Dr. Eleanor Pullenayegum (Child Health Evaluative Sciences)
In this project the student will be completing a chart review on a cohort of patients with juvenile dermatomyositis, in order to help us understand patient prognosis over time. Detailed records have already been abstracted; the purpose of this research is to extract one additional piece of information. This additional piece of information is key to implementing some novel statistical models, and you will have the opportunity to interact with the research team who are developing them.

How to apply
Please submit a cover letter giving the following information:
  a) Any prior experience with chart reviews;
  b) an example of a task you performed which required close attention to detail, explaining your approach to completing the task well and checking for errors;
  c) an example of a task you performed which required perseverance, explaining how you kept yourself motivated;
  d) what you hope to learn from this position.
Email: Panagiota Vogdou panagiota.vogdou@sickkids.ca

Dr. Gregory Costain (Genetics and Genome Biology)
The student will be involved in projects focused on discovering new genetic conditions that cause severe childhood illnesses, via an undiagnosed disease program.
They will be responsible for helping with analysis of data from whole genome sequencing, reviewing clinical information, and preparing manuscripts.

How to apply
Email: Gregory Costain gregory.costain@sickkids.ca

Dr. Helen Dimaras (Child Health Evaluative Sciences)
The student will be involved in patient-partnered research about the childhood eye cancer, retinoblastoma. Duties include, but are not limited to: research administrative tasks; mixed-method data collection and analysis; and scientific writing (i.e. reports, manuscript draft).

How to apply
Please provide a brief writing sample (0.5 to 1 page in length) in which you describe the Canadian Institutes of Health Research (CIHR) Strategy for Patient-Oriented Research (SPOR).
Email: retinoblastoma.research@sickkids.ca
Dr. James Drake (Neurosciences and Mental Health)
We are looking to recruit summer students from engineering, physics, computer science, mathematics, or related fields to work in a biomedical engineering lab that is focused image-guided surgery technology. Our project themes include medical robotics, 3D printing, focused ultrasound therapy, magnetic resonance imaging, computer vision and image processing.

How to apply
In addition to the required application materials, a concise cover letter (1 page max) that outlines learning goals, scientific interests and skills/strengths would be welcome.

Email: Adam Waspe adam.waspe@sickkids.ca

Dr. Julie Brill (Cell Biology)
The student will be involved in a project studying mechanisms of cellular differentiation in the fruit fly Drosophila melanogaster. Areas of research in the lab include phosphoinositide signaling, membrane trafficking, organelle biogenesis, mitochondrial dynamics, post-transcriptional regulation and long noncoding RNAs. Under the guidance of a more senior member of the lab, the student will perform research involving one or more of the following techniques: Drosophila genetics, fluorescence microscopy, molecular biology, and biochemistry. They will be responsible for mastering relevant laboratory techniques and background knowledge, keeping a laboratory notebook, and participating in virtual lab group meetings.

How to apply
Please submit a cover letter explaining your interest in the research in the lab.

Email: Julie Brill julie.brill@sickkids.ca
Dr. Kate Nelson (Child Health Evaluative Sciences)

As a pediatric palliative care physician, so my clinical role is to support children with life-threatening illnesses and their families. Families in the care of my team often face impossible decisions--choices where there is no good option and little data to guide their decision-making. My program of research focuses on how to better support families making these impossible decisions.

I am looking for a research student to help me with a scoping review of the literature about complex decision-making. We will work together with a librarian to create a search strategy. You will then go through all of the titles found in the search and identify the relevant articles. Once we have the articles, we will read them and figure out the big themes that are covered and where there are gaps in the literature, then write a manuscript describing what we found.

I expect that our search will include lots of papers from psychology in addition to the medical literature, so some background in psych will be helpful. Attention to detail and critical thinking skills will also be important.

How to apply
Email: Kate Nelson kate.nelson@sickkids.ca

Dr. Lynne Howell (Molecular Medicine)

The successful candidate will contribute to our bacterial biofilm project and assist us in unravelling the molecular basis of exopolysaccharide biosynthesis in the opportunistic pathogen Pseudomonas aeruginosa.

How to apply
Email: Lynne Howell howell@sickkids.ca

Dr. Martin Offringa (Child Health Evaluative Sciences)

Students will be involved in systematic reviews across diverse disease areas. The objective of these reviews will be to assess outcome reporting and measurement in clinical trials. This project will expose students to the complexities surrounding outcome selection, measurement, and reporting in clinical trials. Visit our lab website to learn more:
https://lab.research.sickkids.ca/enrich/

How to apply
Email: Andrea Chiaramida achiara@sickkids.ca
Dr. Peter Gill (Child Health Evaluative Sciences)

Systematic review of diagnostic test accuracy of ultrasound to diagnose orbital cellulitis in children.

Periorbital and orbital cellulitis are serious bacterial infections in children that can lead to vision loss, meningitis or death. Computed tomographic (CT) scan with contrast is the current the gold standard imaging modality, yet, ionising radiation from CT scans can cause lethal malignancies. Ultrasound is an alternate imaging modality that could quickly and easily diagnose children without any associated radiation exposure. Further, point-of-care ultrasound in children who present to the emergency department is rapidly emerging as a key diagnostic tool. We plan to conduct a systematic review of the diagnostic test accuracy of ultrasound to diagnose orbital cellulitis in children with periorbital swelling. We will conduct a detailed search of several databases for both published and unpublished observational studies and randomized controlled trials on patients aged 18 years and younger with periorbital and orbital cellulitis. The primary outcome will be calculation of the sensitivity and specificity of orbital ultrasound in diagnosing orbital cellulitis. A 2x2 table will be constructed and we will also calculate PPV, NPV, positive and negative LR. Eligible studies will be evaluated for inclusion, data will be extracted and analyzed according to standard Cochrane methodology.

In close supervision with the faculty supervisor, the student will be responsible conducting the systematic review, including selection of studies based on pre-defined inclusion criteria, data extraction and management, assessment of risk of bias, and data analysis. The student will have an opportunity to work with Cochrane review management software, which is used to write reviews, including inserting characteristics of studies, inputting study data and generating comparison tables. Depending on study progress, the student will assist to prepare key components of the manuscript, including background, methods, and mock results tables. The student will be embedded in a rich and collegial research environment, including participating in research and clinical rounds. The student will have an opportunity to remain involved in the project, including submitting to present at conferences.

How to apply
Short paragraph explaining interest in the summer project

Email: Peter Gill peter.gill@sickkids.ca
**Dr. Sanjay Mahant (Child Health Evaluative Sciences)**

Systematic review on the utility of renal ultrasound for children hospitalized with first episode febrile urinary tract infection.

Study Background: Urinary Tract infection (UTI) are common bacterial infections in children, occurring in about 1.7% of boys and 8.4% of girls before age 7 years. It is also one of the most common reasons for hospitalization in children. Current Canadian and US practice guidelines recommend routine performance of a renal ultrasound after the first febrile UTI in children less than 2 years of age. The rationale for performing renal ultrasound is to identify genitourinary abnormalities which predispose to recurrent UTIs and for which intervention may prevent future UTIs and renal damage. However, in the era of prenatal ultrasounds, the detection rate of serious genitourinary abnormalities is low. Furthermore, although renal ultrasound is non-invasive, false positive ultrasound results may result in unnecessary care, harms and costs. Thus, the performance of the renal ultrasound has become questioned.

Study Goal and Student’s Experience: The goal of this systematic review is to determine the utility of renal ultrasound for children with first episode febrile urinary tract infection by determining the rate of detection of genitourinary abnormalities, prevention of future UTIs, and harms of false positive ultrasound results. Cochrane methodology will be foundational for conducting the review. The student will work closely with the faculty supervisor, to draft a study protocol, conduct a literature search with a librarian, screen and select studies based on the pre-defined criteria, and extract and input data using Cochrane review management software. The student will assist with drafting the manuscript. The student will be part of a rich learning environment and research team who are focused on generating evidence to improve the care of hospitalized children and their health outcomes.

How to apply
Email: Sanjay Mahant sanjay.mahant@sickkids.ca

**Dr. Sergio Grinstein (Cell Biology)**

The student will study the interaction between macrophages with pathogens such as Candida albicans. The student will perform biochemical analyses, will use confocal microscopy and will analyze the resulting data.

How to apply
Email: Sergio Grinstein sergio.grinstein@sickkids.ca