























## 2025 Summer Biomed Research Opportunities

**Faculty Mentor:** Sheryl Kopel

**Department:** Psychiatry, Pediatrics

**Email:** Sheryl\_Kopel@Brown.edu

**Description of Project:**

The student would work on one to two NIH-funded pediatric health disparities studies conducted by Dr. Daphne Koinis Mitchell and her collaborators. Studies investigate sleep, immune function, obesity and asthma outcomes in urban children with asthma and allergy. All studies are multi method, meaning that several types of data are collected (questionnaires, interviews, real-time sleep and asthma measurements using electronic monitors, biological samples, etc.) Students would shadow full time staff and be involved in data collection, co-investigator meetings, and scholarly meetings. They would also have an opportunity to work on a scholarly project (a paper or presentation) with Dr. Koinis Mitchell and/or another senior lab member.

**Research Subject Area:**

Pediatric Behavioral Health Research

**Desired Student Qualifications:**

Some experience and/or coursework in human subjects research is highly desirable. An interest in pediatric health psychology and health disparities research and interventions. Background knowledge of pediatric asthma and allergy is a plus but not required.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

The student would attend weekly staff meetings with Dr. Koinis Mitchell and other senior lab members. One-on-one supervision would happen weekly with Ms. Sheryl Kopel, the director of Dr. Koinis Mitchell's research program, and once monthly with Dr. Koinis Mitchell.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Ju Nyeong Park

**Department:** Medicine

**Email:** ju\_park@brown.edu

**Description of Project:**

We are looking for a medical student interested in working on community-based harm reduction research. The students will have the opportunity to work on several innovative studies with Dr. Ju Park at the Harm Reduction Innovation Lab and faculty at the COBRE on Opioids and Overdose. We will use a variety of research and evaluation methods including mixed-methods research, qualitative interviews, document analysis, surveys and the analysis of secondary datasets. Students will participate in team meetings, regional trainings and conferences, community engagement activities, as well as data collection, analysis, and publication. For more information see [www.harmreductionlab.com](http://www.harmreductionlab.com)

**Research Subject Area:**

Clinical Research, Medical Education/Patient Education, Health Policy, Medical Humanities, Epidemiology

**Desired Student Qualifications:**

Experience working with vulnerable communities; interest in harm reduction, public health and drug policy

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Our lab meets every week. I will also meet with the students on Zoom regularly (typically biweekly).

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Eric T Wong

**Department:** Medicine

**Email:** ewong1@lifespan.org

**Description of Project:**

This project involved retrospective clinical research on the rate of growth of glioblastoma in patients from a single institution at RIH. The student will learn about neuroanatomy, cancer, MRI imaging, and statistics. Med students who opt to be in the Scholarly Concentrations Program are encouraged to apply so that he/she can work more in-depth in this longitudinal project spanning years 2-4 in medical school. The goal is to enable the student to develop scholarly work, under faculty guidance, that can be presented in national meetings and in a formal scientific communication.

**Research Subject Area:**

Clinical Research, Chart Review

**Desired Student Qualifications:**

The student should be interested in neuroscience, cancer biology, and radiology science.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

every week or every 2 weeks.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Jason Richards

**Department:** Neurology

**Email:** Jason\_Richards@brown.edu

**Description of Project:**

We are aiming to train a computer algorithm in the interpretation of electroencephalogram (EEG) data. In particular, we are working on building an algorithm to help computers find generalized periodic discharges (GPDs) in EEGs in patients following a cardiac arrest - this pattern typically suggests a poor prognosis. We are looking for someone to help build our training EEG dataset and further refine our algorithm.

**Research Subject Area:**

Clinical Research, Chart Review

**Desired Student Qualifications:**

The ideal student participant will have an interest in neuroscience and some familiarity with coding concepts. Much of the work done on the project is in Python.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

I plan on meeting with the student weekly - either virtually or in person. My office is in Rhode Island Hospital.

# 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Mark Brady

**Department:** Emergency Medicine

**Email:** mark.brady@brownphysicians.org

**Description of Project:**

This will be a non-systematic review of the legal liabilities and protections for physicians treating patients during different declared states of emergency. It will result in a publication. Physicians often misunderstand the liability they incur while working in various states of emergency. During COVID19 in NYC, for example, physicians thought that the governor's order temporarily suspending tort directly related to COVID19 treatment would protect them from other liabilities, which it did not. As a result, many physicians came to NYC without medical malpractice insurance and are now at risk for getting sued without insurance. Likewise, many people assume that volunteer status confers legal immunity, which it does not. Those under Title 10 orders from the federal government assume they cannot be named in a suit, which is incorrect.

**Research Subject Area:**

Medical Education/Patient Education, Health Policy

**Desired Student Qualifications:**

Ability to perform literature searches and self-motivation to do literature reviews in the medicolegal literature.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Weekly meetings to review progress and give guidance during the literature review and manuscript preparation. Meetings can occur at the medical school, department offices, or remotely.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Justin Berk

**Department:** Pediatrics

**Email:** justin\_berk@brown.edu

**Description of Project:**

The overall research project focuses on addiction treatment in a correctional setting (i.e., the RIDOC ACI). In the summer, I am hopeful to either have an opportunity for a student to help conduct qualitative interviews with ACI stakeholders and/or analyze and "code" the qualitative transcripts previously collected. There may be other opportunities to conduct literature reviews, support the administrative processes for a clinical trial design (e.g., IRB, regulatory requirements), and/or support other ongoing research projects at the intersection of healthcare and incarceration.

**Research Subject Area:**

Clinical Research

**Desired Student Qualifications:**

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Will have weekly mentoring meetings on Zoom or in-person



## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Shibin Cheng

**Department:** Pediatrics

**Email:** Shibin\_Cheng@brown.edu

**Description of Project:**

Roles of ER stress, autophagy, mitochondria, and inflammation in the pathogenesis of preeclampsia

**Research Subject Area:**

Basic Science Research

**Desired Student Qualifications:**

Previous lab experience

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

I will meet with the student at least twice a week at my office or lab for experimental design, result analysis and interpretation, troubleshooting, etc.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Dimitrios Farmakiotis

**Department:** Medicine-Infectious Diseases

**Email:** dimitrios.farmakiotis@lifespan.org

**Description of Project:**

Multiple single institution or collaborative registry-based retrospective or prospective studies, almost all IRB-approved, focused on infections in the immunosuppressed, especially COVID-19. Flexible schedule, most MS publish at least 3-4 peer-reviewed articles.

**Research Subject Area:**

Clinical Research, Medical Education/Patient Education, Medical Humanities, Epidemiology, Chart Review

**Desired Student Qualifications:**

MS Office, ref. manager (e.g. Endnote), some statistical package (e.g. SAS, SPSS, Stata) preferred

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Usually weekly remote (zoom) and few in-person meetings.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Laura Stroud

**Department:** Department of Psychiatry and Human Behavior

**Email:** laura\_stroud@brown.edu

**Description of Project:**

Students who join the biobehavioral research team are involved in a wide range of tasks, such as coding fetal and infant behavior and temperament, working with clinical data from telephone interviews and electronic medical records, and other study-related tasks. Students are involved in every aspect of the research including recruitment efforts, biospecimen and data collection, data analyses, and retention strategies. Opportunity to work on our on-call team to collect, process, and store biospecimens is also available.

**Research Subject Area:**

Clinical Research

**Desired Student Qualifications:**

Strong interpersonal and organizational skills preferred. Experience with clinical and or diagnostic interviewing and longitudinal studies desirable. Experience with electronic data capture/REDCap also desirable but not required. Position involves working

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Training and supervision of these tasks are rigorous and tightly maintained to ensure that study aims are being carried out according to HIPAA and IRB guidelines. Weekly meetings will take place with our Senior Research Project Director to ensure progress on projects and study related tasks. These weekly supervision meetings will take place via zoom or in person at the Center for Behavioral and Preventative Medicine at The Miriam Hospital.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Nicholas Musisca

**Department:** Emergency Medicine

**Email:** musinj6@gmail.com

**Description of Project:**

I have a passion for creating procedure based videos to post online as FOAMED (Free Open Access Medical Education) I am looking for someone interested in learning about video production. End of project deliverables will include several procedure based videos with already prerecorded and preapproved videotaped patient procedures that will be published on the Brown Emergency Medicine Blog

**Research Subject Area:**

Medical Education/Patient Education

**Desired Student Qualifications:**

The ideal resident would have some baseline experience in powerpoint and is enthusiastic to learn how to record audio and learn how to use production software.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

I think meeting twice a week for to provide both teaching and updates on progress of the projects would be a sufficient initial start on the project. I think part of the education for this project would also include goal setting and meeting the milestones to complete the summer projects would be of merit.

# 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Steven Rougas

**Department:** Office of Medical Education

**Email:** steven\_rougas@brown.edu

**Description of Project:**

Preventative counseling and advanced communication are key components of the Doctoring Program - a required clinical skills curriculum for all medical students. The program uses a variety of multimodal teaching materials such as example videos, guides, checklists, etc. Initially, many of these materials were created based on the 5 A's counseling framework, but need to be revisited/updated to align with changes in the delivery of care in these areas. Students would be working with course leaders to 1) update example videos using role play with standardized patients (SPs), and 2) update counseling/communication guides (including linking to local resources) for topics such as Intimate Partner Violence (IPV), depression, disclosing medical errors, delivering life-altering news, sexual health counseling, etc. The student would be able updating/editing these documents primarily under the mentorship of experienced course leaders.

**Research Subject Area:**

Medical Education/Patient Education

**Desired Student Qualifications:**

Though not required, prior experience with developing curriculum or teaching materials would be helpful.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Course leaders in the Doctoring Program are available weekly to meet with students and review materials/drafts. Course leaders are available for both in-person and virtual meetings.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Kate Millington

**Department:** Pediatric Endocrinology

**Email:** kate\_millington@brown.edu

**Description of Project:**

There is a known difference in EKG findings between cisgender men and women, however the contribution of hormones, genetics, and/or other factors to this difference is unknown. Transgender youth can be treated with gender-affirming hormones (i.e., testosterone for transmasculine individuals and estrogen for transfeminine individuals). It is not clear which EKG standards (i.e. that of their designated sex or hormone exposure) should be used for transgender youth receiving gender affirming therapy. In this project we will study how EKG characteristics change in trans youth undergoing gender affirming hormone therapy.

**Research Subject Area:**

Clinical Research

**Desired Student Qualifications:**

We are looking for a student with an interest in transgender health and/or sex differences in disease. They should have great organization skills and drive to get this project off the ground.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

We will meet weekly either virtually or at Rhode Island Hospital main campus.

# 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Glenn Radice

**Department:** Medicine/Cardiology

**Email:** glenn\_radice@brown.edu

**Description of Project:**

More than a million Americans experience a heart attack each year causing irreversible damage to their heart muscle. Current therapies prolong survival by protecting remaining cardiomyocytes, but they are unable to overcome the fundamental problem of replacing lost heart muscle. Previous work has established that abnormal mechanotransduction in the neonatal mouse heart, caused by depletion of N-cadherin-associated  $\beta$ -catenin proteins, results in sustained myocyte proliferation into adult life. The goal of our studies is to provide an understanding of how mechanotransduction regulates myocyte proliferation in the normal heart, and apply this knowledge to the design of novel therapies to stimulate adult myocytes to undergo cell division and repair the injured heart. To study this phenomenon the lab employs a multidisciplinary approach, including mouse molecular genetics, cell biology, cardiac physiology, and biomechanical techniques.

**Research Subject Area:**

Basic Science Research

**Desired Student Qualifications:**

Required skills: Coursework in biology, chemistry; willingness to work with mouse models

Preferred skills: Coursework in molecular/cell biology/physiology; past wet lab research experience

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

A 100% of my time is dedicated to research so I am available to provide the student with the necessary supervision for a successful training experience. In addition to regularly scheduled weekly lab meetings (Monday morning), I plan to meet with the student individually at least once per week to discuss their progress. I also meet individually with all lab members once per month (first Thursday of the month) to discuss research progress, goals, and any issues that may be impeding their research. In the initial start-up phase, the student will complete all required lab safety and animal training, review literature related to their project, and meet with other researchers in the lab. Meetings take place in the Cardiovascular Research Center located on the 5th floor of Coro West.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Kyle Denison Martin

**Department:** BioMed

**Email:** kyle\_martin@brown.edu

**Description of Project:**

This project involves assisting with trauma training courses at District Hospitals in Rwanda. The chosen student will need to be available to travel to Rwanda from May 25th-June 12th/13th. The student will help to post the curriculum on Canvas and then assist the logistics of delivering the content. The student will then assist with assessing results of the training sessions and sharing that material at local, regional and national conferences.

**Research Subject Area:**

Clinical Research

**Desired Student Qualifications:**

Interest in global health, adaptable/flexible attitude, past experience with global travel to low- and middle-income countries

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

I will be in regular contact with the student on a weekly basis with plans to touch base (in-person or via Zoom) on a biweekly basis. I will be available on weekdays during business hours to answer any questions/concerns. I will provide the student with resources to assist them with their tasks and help them to develop in their research skills.



## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Kyle Martin

**Department:** BioMed

**Email:** kyle\_martin@brown.edu

**Description of Project:**

This project involves assisting on a research project to validate a smartphone application that obtains hemoglobin levels from taking images of patient conjunctiva. The chosen student would assist with analysing results from the study. There is an option to travel to Rwanda during the period of the SRA, if interested. In this case, the student would have the opportunity to assist with additional research projects on-site at University Teaching Hospital - Kigali.

**Research Subject Area:**

Clinical Research

**Desired Student Qualifications:**

Hx of clinical research experience, interest in global health, positive attitude/flexible/adaptable

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

I will be in regular contact with the student on a weekly basis with plans to touch base (in-person or via Zoom) on a biweekly basis. I will be available on weekdays during business hours to answer any questions/concerns. I will provide the student with resources to assist them with their tasks and help them to develop in their research skills.

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Gerard Nau

**Department:** Medicine/Infectious Diseases

**Email:** gerard\_nau@brown.edu

**Description of Project:**

One project tests a compound for immune modulation in vitro, involving cell culture and reporter assays from the cells. Of note, RIH is starting as a site to test the compound in COVID-19 patients. A second project investigates T cell responses to SARS-CoV-2 spike protein after vaccination using ELISAs and ultimately flow cytometry.

**Research Subject Area:**

Basic Science Research

**Desired Student Qualifications:**

Exposure to basic laboratory techniques including micropipetting and making solutions, and/or more advanced techniques such as cell culture.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Weekly in my office next to the laboratory. Also informally when the student is in the laboratory so they can provide updates for any problems.

# 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Melissa Palma

**Department:** Family Medicine

**Email:** melissa\_palma@brown.edu

**Description of Project:**

TayoHelp.com is a project of the Filipino Young Leaders Program (FYLPRO). Tayo's online platform serves as a trustworthy resource for Filipino American communities in the COVID-19 pandemic, providing culturally-tailored information regarding public health education and linkages to community resources. Join a disciplinary team of public health physicians, behavioral health professionals, journalists, policy experts, technologists, and Filipino community members working to address Asian American health disparities combatting mis- and dis-information via community-based participatory research, community engagement, and participation in our FYLPRO summer fellowship. More information on ongoing projects listed here.

<https://docs.google.com/document/d/1y6VdBA73Fef53JRhdR4st3z6E0rvERnUIZpisp67Xhl/edit?usp=sharing>

**Research Subject Area:**

Medical Education/Patient Education, Epidemiology

**Desired Student Qualifications:**

Interest in health disparities research and community health engagement. Willingness to learn about Filipino community, quantitative survey design, or qualitative research methods.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

The student will join our biweekly Tayo research meetings via Zoom which consist of a didactic literature review (COVID-19 updates, health disparities research, and articles of interest to the Filipino community), followed by team updates on ongoing research projects. I will be available for biweekly one-on-one mentorship meetings with the student researcher either in-person or via Zoom in the summer and during the school year. If the student onboards during July-September, they will be eligible to join weekly mentorship and teambuilding activities of our Tayo Fellowship program

<https://fylpro.org/filipino-young-leaders-program-announces-summer-2022-class-of-tayo-fellows/>

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Craig Spencer

**Department:** Brown SPH HSPP

**Email:** craig\_spencer@brown.edu

**Description of Project:**

My work is on the historical foundations of public health and medicine. A prospective student could choose an aspect of medicine/public health and research its background/history, with a goal of strategizing paths forward for public health practice. Primary focus would be in humanitarian health, global health or pandemic preparedness/response.

**Research Subject Area:**

Medical Humanities

**Desired Student Qualifications:**

Humanities background

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

TBD depending on student availability, but at least a weekly check-in and longer scheduled meet-ups throughout to ensure making progress

## 2023 Summer Biomed Research Opportunities

**Faculty Mentor:** Gyan Pareek

**Department:** Urology

**Email:** ctucci@lifespan.org

**Description of Project:**

Rhode Island has one of the highest rates of bladder cancer in the country. Numerous theories including environmental exposure suggest etiology, however more research is needed to identify the extent of disease.

**Research Subject Area:**

Clinical Research

**Desired Student Qualifications:**

Previous research experience preferred but not necessary. A strong work ethic and attention to detail is required.

**What is your plan for mentoring a student researcher (i.e., how often you will meet with the student, when, where)?:**

Weekly research team meetings on-site at The Miriam Hospital or virtual as needed