

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Sadif Ali, MD

Department

Clinical Assistant Professor of Psychiatry and Human Behavior

Mentor email address

Sadaf.Ali@VA.Gov

Project Description

I am a Geriatric Psychiatrist, very interested in insomnia/ regular sleep rhythm and exercise addition to daily life , the student will do sleep logs and track the health regarding good circadian rhythm .

Research Subject Area

Clinical Research, Medical Education/Patient Education

Desired qualifications or previous experience of applicant

Basic understanding of sleep

Meeting plan with students

May meet at Panera , biweekly

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Joseph Bliss, MD

Department

Pediatrics

Mentor email address

jbliss@wihri.org

Project Description

The yeast, *Candida parapsilosis*, is a common pathogen in premature infants. We are studying virulence properties of this organism that enhance its ability to adhere to host surfaces and cause disease. The student would work on a project that studies its ability to adhere in vivo, using a mouse model of gastrointestinal colonization.

Research Subject Area

Basic Science Research

Desired qualifications or previous experience of applicant

Ideally, the student would have experience handling animals. If not, the student would need to be willing to learn animal methodology (mouse). A working knowledge of basic anatomy would also be helpful for dissections.

Meeting plan with students

The student would work primarily with the laboratory manager with regular meetings with me for progress updates. I am also available as needed between meetings when not covering the clinical service.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Ghada Bourjeily, MD

Department

Medicine

Mentor email address

ghada_bourjeily@brown.edu

Project Description

Pregnant women are at increased risk for sleep disordered breathing; however, adherence with treatment of said disorders is suboptimal and averages about 50% in interventional trials. Our team is investigating barriers and facilitators to the use of positive airway pressure to identify those that are unique and others that are common to reproductive age women. This is being done via in-depth qualitative interviews with pregnant and non-pregnant reproductive age women. The student can get involved in analyzing collected qualitative data over the summer.

Research Subject Area

Clinical Research

Desired qualifications or previous experience of applicant

Prior clinical research experience would be helpful but not necessary, especially if student available before summer months for basic training.

Meeting plan with students

The student will meet with myself or a member of the team Co-I (with expertise in qualitative research) or project director on a weekly basis to review progress. The team meets weekly (virtually) and additional times to meet with the student will be made available. The whole study is being set up to occur remotely if needed due to the pandemic and the bulk of the student's work can be done remotely.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Carolina L Haass-Koffler, PHARMD

Department

DPHB and BSS (SPH)

Mentor email address

carolina_haass-koffler@brown.edu

Project Description

I have currently 4 Randomized Controlled Trials (RCTs) with pharmacological interventions compared to placebo to treat alcohol and opioid use disorder. The study are based on neuroscience/pharmacological mechanisms. Students will be involved in the logistics of the RCTs (screening, randomization, clinical sessions). Some of these RCTs were moved to remote setting during the COVID-19 pandemic and we have IRB approval for both in-person and remote sessions in case we need to rump down the studies again.

Research Subject Area

Clinical Research

Desired qualifications or previous experience of applicant

Pharmacology and neuroscience background

Meeting plan with students

I meet individually with each student weekly. Students are also required to attend our week lab meeting.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Mary Carskadon, PhD

Department

Psychiatry & Human Behavior (Bradley Hosp Sleep Lab)

Mentor email address

mary_carskadon@brown.edu

Project Description

The project involves working with 2 archival data sets from children (ages 9-10) and adolescents (ages 15-16) who were studied at ~6 month intervals across 30 months with a variety of measures. We are most interested in looking at the Sleep Regularity Index (SRI) derived from week-long actigraphy files, along with other variables of interest (to be determined with trainees' inputs). Trainees would learn about sleep and circadian timing, perform some data cleaning, learn statistical methods for longitudinal data, and become part of our research team.

Research Subject Area

Behavioral Science, Sleep, Circadian Timing, Mental Health.

Desired qualifications or previous experience of applicant

Some experience with data manipulation and analysis in SPSS, R, or other platforms. Background in psychology/behavioral science. Interest in the topic and desire to learn more about sleep and circadian science.

Meeting plan with students

Student would presumably work on the project at 100% engagement for the length of the program. In the early days, I would meet daily with didactics about sleep and circadian science and the methods used in the study. That probably adds up to a couple of hours a day for a week-10 days. Afterwards, we'd meet at least once a week for progress reports and troubleshooting the project. They'd also meet with other staff and faculty in the group, including our data coordinator and data analyst on a routine basis. For the interested student, other opportunities to engage in our ongoing research may be available.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Shibin Cheng, MD, PhD

Department

Pediatrics

Mentor email address

Shibin_Cheng@brown.edu

Project Description

Our ongoing research mainly focuses on the roles of ER stress, unfolded protein response, autophagy-lysosome and sterile inflammation in the pathogenesis of preeclampsia using a cellular model mimicking the pathophysiology of preeclampsia.

Research Subject Area

Basic Science Research, Clinical Research

Desired qualifications or previous experience of applicant

Any student who has laboratory experience

Meeting plan with students

I will meet with the student at least twice a week in the lab or my office for discussing about troubleshooting, experiment design, data analysis and collection, etc.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Dragan Golijanin, MD

Department

Urology

Mentor email address

CTucci@lifespan.org

Project Description

Rhode Island has one of the highest rates of bladder cancer in the country. We are working to better understand why RI is afflicted more. We are working to geographically study the incidence, risk factors and social determinants of care that impact treatment options and mortality.

Research Subject Area

Clinical Research, Health Policy, Epidemiology, Chart Review

Desired qualifications or previous experience of applicant

Prior research experience is helpful but not required. Attention to detail is necessary, as is the ability to collaborate with an interdisciplinary team.

Meeting plan with students

Weekly meetings at The Miriam Hospital, or remote

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Marissa Gray, PhD

Department

Molecular Pharmacology, Physiology, and Biotechnology

Mentor email address

marissa_gray@brown.edu

Project Description

In collaboration with the Department of Radiation Oncology at Rhode Island Hospital, we are planning a clinical study to monitor anxiety in cancer patients receiving radiation treatment using wearable sensors that detect physiological features of anxiety. In the summer of 2021 we plan to be recruiting patients, administering the study, and analyzing the study data. Students may be expected to manage patient data, monitor the data collection process, and analyze collected data using a variety of software platforms. Additional studies may arise from this clinical study including chart reviews to assess baseline anxiety in patients and outcomes of radiation treatment.

Research Subject Area

Clinical Research, Chart Review

Desired qualifications or previous experience of applicant

Coding experience and familiarity of biostatistics is desired.

Meeting plan with students

My collaborator and I will formally meet with the student at least once per week, but most likely more frequently than that when the clinical study launches. Ideally, the student will be working at the Radiation Oncology Department at Rhode Island Hospital but we can also conduct this research remotely if needed.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Elizabeth Harrington, PhD

Department

Medicine

Mentor email address

elizabeth_harrington@brown.edu

Project Description

Pulmonary hypertension (PH) is a devastating disease marked by endothelial cell (EC) dysfunction and vascular stiffness. While EC dysfunction is at the core of PH pathobiology, the PH EC phenotype is incompletely characterized and remains controversial. Current methods to study this gap source cells from end-stage patients, non-diseased cell lines, or outside of the pulmonary vasculature. Right heart catheterization is the fundamental diagnostic procedure in PH and is repeated throughout the disease course. We have shown that ECs from the balloons of pulmonary artery catheters can be harvested, propagated ex vivo and characterized and that the behavior and function of these cells is influenced by clinical traits and PH severity. We contend that ECs in severe PH display abnormal programmed cell death triggered by cell detachment, known as anoikis resistance. We will leverage this source of pulmonary artery ECs from living patients to define patient-, time- and substrate-based factors that influence EC phenotype. We will characterize the behavior and function of cultured ECs over the course of disease with established assays. We will measure and compare the response of these ECs on a biomimetic synthetic pulmonary vessel platform with variable stiffness and topography.

Research Subject Area

Basic Science Research, Clinical Research

Desired qualifications or previous experience of applicant

The student should have taken basic cell biology/ biochemistry courses.

Meeting plan with students

The mentor will meet with the student virtually and in person multiple times per week. Once the student is technically trained , the meeting frequency will be modified to meet at least 1X per week and more if needed.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Joshua Honeyman, MD

Department

Department of Surgery (Pediatric Surgery)

Mentor email address

joshua_honeyman@brown.edu

Project Description

I am a pediatric surgeon who performs basic/translational research on the genomics of pediatric solid tumors. I also have an interest in outcomes research in pediatric surgery, oncology, and trauma.

Research Subject Area

Basic Science Research, Clinical Research, Medical Humanities, Chart Review

Meeting plan with students

We will set up a mentoring plan prior to starting a project, likely including scheduled weekly meetings with other updates as needed. Some in-person meetings may be necessary, although work can also be done remotely.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Ali Mahta, MD

Department

Neurology

Mentor email address

ali_mahta@brown.edu

Project Description

I have multiple research projects in subarachnoid hemorrhage which can lead to abstract presentation and publication. We have a subarachnoid hemorrhage (a form of brain bleed) at Rhode Island Hospital and as of now, about 400 patients have been entered into this cohort. The projects are clinical and require chart reviews and data abstraction and entry into a redcap database.

Research Subject Area

Clinical Research, Chart Review

Desired qualifications or previous experience of applicant

Some familiarity with medical terminology would be ideal.

Meeting plan with students

The work can be easily done remotely and we can communicate virtually as many times as needed. Some training and supervision will be provided by our residents, research assistants and myself.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Alan Morrison, MD, PhD

Department

Medicine (Cardiology)

Mentor email address

alan_morrison@brown.edu

Project Description

We have a database of over 1800 patients with chest CT that allows for evaluation of measures of atherosclerotic calcification in relation to 5-years follow-up of hard outcomes (death, MI, CVA). We are expanding the outcomes to include heart failure and arrhythmia. Past students have looked at the relationship between gout, vascular calcification, and events; vascular calcification and dementia; statin use and calcification; and measures of pulmonary hypertension and mortality. The beauty of this large dataset is that it is adequately powered for many questions of interest. We've had several medical students and PLME students participate in these studies in the last few years.

Research Subject Area

Clinical Research, Epidemiology, Chart Review

Desired qualifications or previous experience of applicant

Just enthusiasm and willingness to learn. We will train students for their respective projects. You will have the opportunity to learn about epidemiology, basic statistical analyses, database management, and programming our statistical software.

Meeting plan with students

I meet with students on average at least once per week one-on-one. There will be a cardiology fellow to help guide you on the front lines. There are also group and lab research meetings to learn from as well. Just about every summer student that has come through the laboratory has presented at a national conference and has had an authorship on the manuscript associated with their summer project. This productivity is critical for CV building, and my group and I work very hard to ensure you have success in the short summer period.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Alan Morrison, MD, PhD

Department

Medicine (Cardiology)

Mentor email address

alan_morrison@brown.edu

Project Description

My basic research laboratory studies vascular remodeling in several small animal genetic models. Summer research projects involving cellular and molecular assays as well as histological analysis of tissue samples have been designed and carried out in the past. If you have an interest in understanding mechanisms of atherosclerosis or new blood vessel growth in response to ischemia, there are many active projects in these areas that can be designed to have short summer research timeline components.

Research Subject Area

Basic Science Research

Desired qualifications or previous experience of applicant

Enthusiasm and a willingness to learn is all that is required. We will train students in a hands-on manner. I will work with you to design a basic hypothesis to test and based on the approach you will learn 1-2 experimental approaches to answer the ques

Meeting plan with students

I meet with students on average at least once per week one-on-one. There will be a postdoctoral fellow or graduate student to help guide you on the front lines. There are also group and lab research meetings to learn from as well. Just about every summer student that has come through the laboratory has presented at a national conference and has had an authorship on the manuscript associated with their summer project. This productivity is critical for CV building, and my group and I work very hard to ensure you have success in the short summer period.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Hwamee Oh, PhD

Department

Psychiatry and Human Behavior

Mentor email address

Hwamee_Oh@brown.edu

Project Description

The project aims to examine the effects of beta amyloid plaques and tau protein neurofibrillary tangles, two pathological hallmarks of Alzheimer's disease, on neural activation patterns and cognition among asymptomatic older adults. The student will work on analyzing human neuroimaging data of magnetic resonance imaging (MRI) and positron emission tomography (PET) that detects plaques and tangles in vivo. Through the project, the student will acquire and apply knowledge on the neurobiology of Alzheimer's disease, human neuroanatomy, human neuroimaging data analyses, and clinical applications of these research findings.

Research Subject Area

Basic Science Research, Clinical Research

Desired qualifications or previous experience of applicant

Understanding of neuroscience at an introductory level and an interest in the brain aging process and Alzheimer's disease are required. Experiences with programming languages such as Unix and python and/or statistical analyses are desired.

Meeting plan with students

Daily one-on-one meetings will be provided to facilitate the student's progress on the project either via zoom or in person meetings in the neuroimaging laboratory.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Gyan Pareek, MD

Department

Urology

Mentor email address

CTucci@lifespan.org

Project Description

Explore how prostate cancer has changed over the past 15 years and how diagnostics have changed the surgical treatment. Explore operative outcomes with over a decade of experience at a high volume robotic surgery center of excellence.

Research Subject Area

Clinical Research, Chart Review

Desired qualifications or previous experience of applicant

Eagerness to learn, attention to detail, ability to work collaboratively

Meeting plan with students

Weekly meetings, in person or virtually, frequent informal communication

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Megan Ranney, MD, MPH

Department

Emergency Medicine/Center for Digital Health

Mentor email address

megan_ranney@brown.edu

Project Description

Students could work with me on any of a variety of projects. I have multiple ongoing studies using technology (social media, text messages, etc) to try to identify and reduce the risk of violence and related behavioral health problems; students could assist in recruitment and follow-up, data acquisition, and potentially with data analysis. Students could also help with startup digital health research. Finally, students could assist with my projects to reduce the risk of firearm injury among 4H Shooting Sports students and to educate healthcare professionals about firearm injury.

Research Subject Area

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

Desired qualifications or previous experience of applicant

The ideal student would be interested in emergency medicine and public health; would be interested in technology or firearm injury; would have some background in visual design, technology, behavioral interventions, or qualitative research; and most of all

Meeting plan with students

Weekly meetings in person or via zoom, depending on COVID. Weekly team meetings. Regular meetings with my larger research staff.

2021 PLME Summer Research Assistantship (SRA) Project/Mentor List

Mentor

Sunil Shaw, PhD

Department

Pediatrics

Mentor email address

sshaw@wihri.org

Project Description

1-Transcriptomic analysis of virulence associated genes in *Candida parapsilosis*

2-Function of virulence associated genes in *Candida parapsilosis* in *Galleria mellonella*

Research Subject Area

Basic Science Research

Desired qualifications or previous experience of applicant

Previous wet lab experience helpful

Meeting plan with students

I am typically in the lab 4-5 days a week, and available for discussion