Mentor Name: Laura Carpenter, PhD

Mentor Title: Associate Professor of Pediatrics

Email: carpentl@musc.edu

This is a

☐ laboratory –based project

☒ clinical research project

Brief Description of Summer Project:

The South Carolina Children’s Educational Surveillance Study (SUCCESS) is an epidemiological study of the prevalence of autism spectrum disorders. The study involves screening a large population of children for characteristics related to autism, and evaluating those at risk for autism to determine prevalence and other characteristics. The student working on this project would gain practical skills in the implementation of a large scale clinical study, and would work on a smaller data-analysis project using data from the larger study. The student’s project is expected to lead to a professional presentation and publication.

Would you be able to have the student shadow you clinically for part of the time?

☐ No, I am not a clinician

☐ Yes--I am not a clinician but could find someone in my division to perform this function

☒ Yes, and student would shadow developmental behavioral pediatricians as well
Mentor Name: Melissa Henshaw, MD

Mentor Title: Medical Director, Heart Health and PI, Pediatric Metabolic Syndrome Study

Email: henshawm@musc.edu

This is a

☐ laboratory-based project

☒ clinical research project

Brief Description of Summer Project:

After completing IRB CITI training, students will observe and participate in the conduct of the Pediatric Metabolic Syndrome Study (HR 19375) under Melissa Henshaw, MD, Yar Chowdhury, MD, Janet Carter, RD, and Sarah Stein, BS. Students will conduct a literature search and develop a research hypothesis and specific aims for a summer project. Students will select relevant parameters for analysis; available study data includes factors relevant to pediatric obesity and cardiometabolic risk, including body mass index, BP, anthropometrics, DEXA scans, medgem results, fasting labs, study questionnaires, echo, and cIMT findings. Students will analyze their data and present their findings at the annual MUSC Research Day. Students will also participate in Heart Health, the weight management program and preventive cardiology service of the MUSC Children’s Hospital.

Would you be able to have the student shadow you clinically for part of the time?

☐ No, I am not a clinician

☐ Yes--I am not a clinician but could find someone in my division to perform this function

☒ Yes
Mentor Name: Dorothea Jenkins
Mentor Title: Associate Professor Pediatrics, Neonatology
Email: jenkd@musc.edu

These are
- Laboratory–based project
- Clinical research project

Brief Description of Summer Projects:

Clinical Projects: 1) We are performing a pharmacokinetic trial of N-acetylcysteine and Vitamin D in neonates with hypoxic ischemic injury who are treated with hypothermia. We will be determining the half life and clearance of NAC by HPLC during and after hypothermia treatment, and measuring biomarkers of NAC effect on antioxidant glutathione levels by Magnetic resonance spectroscopy and diffusion imaging. We will be performing analysis of serum for Vitamin D levels and MR results during the summer, and relating these to infants’ clinical status and NAC levels.

Laboratory projects 2) We will be testing the combination of NAC and Vitamin D as neuroprotection in a new, combined model of intrauterine infection and hypoxic ischemic injury in neonatal rat pups. We will be performing carotid ligation and exposure to hypoxia after lipopolysaccharide injection, then treating with hypothermia for 2 hours. We will measure inflammatory response to this combined injury by CNS immune activation (immunohistochemistry), by PCR for mRNA expression and western blots for protein analysis of inflammatory mediators and reparative growth factors in treatment groups. We will also be performing sensorimotor function, learning and memory testing.

Would you be able to have the student shadow you clinically for part of the time?
- No, I am not a clinician
- Yes--I am not a clinician but could find someone in my division to perform this function
- Yes
Mentor Name: Julie Kanter Washko

Mentor Title: Director, Sickle Cell Disease Research

Email: kanter@musc.edu

This is a

☐ laboratory-based project

☒ clinical research project

Brief Description of Summer Project:

We follow a large cohort of patients with sickle cell disease at MUSC. This project will be a retrospective chart review of patients treated with acute chest syndrome in order to assess “best practices” based on outcomes.

Would you be able to have the student shadow you clinically for part of the time?

☐ No, I am not a clinician

☐ Yes--I am not a clinician but could find someone in my division to perform this function

☒ Yes
Mentor Name: Julie Kanter Washko
Mentor Title: Director, Sickle Cell Disease Research
Email: kanter@musc.edu

This is a
☐ laboratory–based project
☒ clinical research project

Brief Description of Summer Project:

We follow a large cohort of patients with sickle cell disease at MUSC. This project will be a prospective assessment of quality of life in patients treated with transfusion for SCD versus hydroxyurea versus other management. Student will actively participate in clinical research and in surveying patients and families.

Would you be able to have the student shadow you clinically for part of the time?

☐ No, I am not a clinician
☐ Yes--I am not a clinician but could find someone in my division to perform this function
☒ Yes
Mentor Name: Kyu-Ho Lee

Mentor Title: Asst. Prof Pediatrics (Cardiology)

This is a
☐ laboratory –based project
☐ clinical research project

Brief Description of Summer Project:

The tinman gene in maternal and fetal health: the role of downstream transcriptional targets of the Nkx2-5 gene in congenital heart disease and in pre-eclampsia.

Would you be able to have the student shadow you clinically for part of the time?

☐ No, I am not a clinician
☐ Yes–I am not a clinician but could find someone in my division to perform this function
☐ Yes
Mentor Name: Sakamuri V. Reddy, PhD
Mentor Title: Professor
Email: reddysv@musc.edu

This is a
☒ laboratory–based project
☐ clinical research project

Brief Description of Summer Project:

TRAIL (TNF-Related Apoptosis-Inducing Ligand) regulation of RANK ligand expression in stromal/preosteoblast cells, an essential factor for bone resorbing osteoclast development/function. The student will pursue the molecular mechanism by which TRAIL control RANKL gene expression in bone marrow stromal/preosteoblast cells.

Would you be able to have the student shadow you clinically for part of the time?

☒ No, I am not a clinician
☐ Yes–I am not a clinician but could find someone in my division to perform this function
☐ Yes
Mentor Name: Rachel Tuuri, MD
Mentor Title: Assistant Professor, Pediatrics ED
Email: tuuri@musc.edu

This is a
☐ laboratoty –based project
☒ clinical research project

Brief Description of Summer Project:

The Pediatric Advanced Life Support (PALS) Program of the American Heart Association recommends that for critically ill children immediate intravenous access should be obtained. PALS recommends that after 2 failed intravenous line placement attempts then intraosseous (IO) needle placement should be attempted. With the advent of IO Placement Drills, IO use in the MUSC PED is increasing. Although IO use is reported in the literature to be successful regardless of age or weight, anecdotally our PED has experienced a discrepant performance based on patient weight, with fewer successes in smaller children (<8 Kg).

This project will be a retrospective observational study. The purpose of this project is to investigate success rate and complication rates associated with intraosseous needle placement in the MUSC PED. We will also compare performance based upon the child’s medical comorbidities and use of type of IO line (Manual vs. Drill placement).

Would you be able to have the student shadow you clinically for part of the time?

☐ No, I am not a clinician
☐ Yes–I am not a clinician but could find someone in my division to perform this function
☒ Yes
Mentor Name: Elizabeth Wallis, MD

Mentor Title: Assistant Professor, Division of General Pediatrics

Email: wallis@musc.edu

This is a

☐ laboratory –based project

☒ clinical research project

Brief Description of Summer Project:

Teens with cystic fibrosis, sickle cell disease, and other chronic illnesses must transition from pediatric to adult oriented healthcare and this transition is particularly high risk for disease morbidity and mortality. Student would be working on a pilot project studying neurocognitive deficits in teens with chronic illness and the relationship between those deficits and transition readiness. Student would participate in all aspects of the project, but we hope to do the bulk of the data collection in the Spring/Summer 2014. Project involves neurocognitive testing using easy-to-administer online software (student would be trained and would administer), other project data collection, chart review and data analyses. Strong interpersonal skills required as student will interact extensively with patients and families. Opportunity would exist for student to continue beyond the 10-week summer program if interested.

Clinical opportunities to shadow would include: pediatric primary care, spina bifida multidisciplinary clinic, foster care support clinic, newborn nursery and inpatient call if interested.

Would you be able to have the student shadow you clinically for part of the time?

☐ No, I am not a clinician

☐ Yes--I am not a clinician but could find someone in my division to perform this function

☒ Yes