

List of Potential Pediatric Mentors for Undergraduate Students		
Clinical Research Projects		
Faculty Researcher Name	Research Discipline	More Information
Samantha Hill, MD, MPH	Infectious Disease Adolescent Medicine	Dr. Hill's research focuses on HIV prevention using biomedical tools like pre-exposure prophylaxis (PrEP) as well as mHealth to adapt an mHealth app that will increase the uptake and successful use of PrEP among Black adolescents and young adults. Students will learn quantitative, qualitative, mixed methods, and community-engaged methodologies and strategies. Students will be engaged in data analysis. There will also be opportunities for abstract and poster submissions and presentations and authorship on publications.
Nathalie Maitre, MD	Neurology Neonatology	Observational and interventional patient-based research related to development of pre-term infants and young children with varying developmental needs and their families. All students are encouraged to participate in ongoing projects and lab activities, including trainings, scientific posters, presentation, and publications.
Tamara Miller, MD	Cancer/Blood Disorders	Children with cancer undergo intensive therapies that can cause significant treatment-related side effects, or toxicities. The focus of our research group is to better identify and understand toxicities that patients experience. This is accomplished through development of detailed datasets using a combination of chart abstraction and use of automated extraction of electronic medical record data. There are several ongoing studies developing these datasets and using them to answer clinical research questions about toxicities of therapy.

List of Potential Pediatric Mentors for Undergraduate Students		
Outcomes Research Projects		
Faculty Researcher Name	Research Discipline	More Information
Sharon Castellino, MD	Cancer/Blood Disorders	Evaluating acuity of illness and association with race, ethnicity and age in childhood cancer.
Lisa Ingerski, PhD, MS	Psychology	Dr. Ingerski's research focuses on improving health-related quality of life (HRQOL) and psychosocial outcomes for children with brain tumors and their families. As a pediatric psychologist specializing in neuro-oncology, she studies how intensive and complex treatments, including molecularly targeted therapies, affect patients during treatment and long into survivorship. Her work examines the physical, mental, and social challenges that often arise as late effects of therapy, such as chronic health conditions and secondary cancers. By identifying factors that influence patient and family outcomes, she aims to develop and implement interventions that promote resilience, adaptation, and overall quality of life throughout the pediatric brain tumor journey.
Kirsten Williams, PhD	Cancer Immunology	Dr. Williams' research uses a bedside-to-bench-to-bedside approach to translate novel immunotherapies for high risk leukemias and to understand and influence complications of hematopoietic cell transplantation, such as graft versus host disease and graft failure.
Brian Zaroni, MD	Infectious Diseases and Global Health	Dr. Zaroni's research focuses on piloting and implementing interventions to improve the continuum of care for adolescents living with perinatally-acquired HIV in South Africa and the United States.

List of Potential Pediatric Mentors for Undergraduate Students		
Basic Science/Translational/Informatics Research Projects		
Faculty Researcher Name	Research Discipline	More Information
Ann Chahrودي, MD, PhD	Infectious Disease	The Chahrودي Lab studies how viral infections like HIV and Zika virus affect children and how to develop better treatments and cures. We focus on understanding how viruses hide in the body, how the immune system responds, and why infections in children differ from adults. Our research uses advanced lab and animal models to uncover ways to eliminate hidden viruses, strengthen immunity, and protect brain development after infections.
Tim Gershon, MD, PhD	Neurology including Autism	Dr. Gershon studies how immune cells in the brain react to brain tumors, using mouse models. Our goal is to develop ways to get the immune cells to reduce brain tumor growth. Student will analyze recently generated data on gene expression in different cells within mouse brain tumors, including cancer cells, normal brain cells and immune cells. The work will require sorting through data in spreadsheet form, searching the literature to learn about highlighted genes, and planning follow up experiments.
Shannon Gourley, PhD	Emory National Primate Center	The group studies the biological and neural mechanisms that shape how the brain processes rewards and drives reward-related behaviors. Their work centers on understanding dysfunctions in reward processing that are linked to depression (e.g., diminished pleasure or difficulty prioritizing rewarding experiences) and addiction.
Andrew L. Hong, MD	Hematology/Oncology	Dr. Hong's research is focused on high risk solid tumors (e.g. kidney cancers, soft tissue sarcomas and brain tumors). These cancers represent the areas of greatest need in Pediatric Oncology. His work uses functional genomic techniques (e.g. RNAi, CRISPR-Cas9) and the latest sequencing technologies (e.g. long range phased sequencing, scRNAseq, ATACseq) to identify new therapeutics and mechanisms in pediatric cancers.
Philip Lupo, PhD, MPH	Cancer Prevention and Control	Dr. Lupo's research focuses on leveraging population-based resources, such as birth defects and cancer registries, to identify novel genetic and environmental predisposition factors for birth defects, childhood cancers, and other pediatric disorders, with the ultimate goal of developing targeted prevention strategies and interventions to improve health outcomes in affected children.

Lefteris Michailidis, PhD	Infectious Disease	The Michailidis Lab studies how viruses interact with the human body — especially how they infect the liver and cause disease. Our main focus is on the hepatitis B virus (HBV), which infects liver cells (called hepatocytes) and can lead to chronic liver disease. We explore how the body’s natural immune defenses and liver metabolism respond to infection, and how these processes can be used to design better treatments. Using advanced tools like single-cell sequencing and CRISPR gene editing, we study liver cells in detail to find new ways to cure chronic hepatitis B. Students in the lab can learn modern research techniques and apply them to better understand viral infections, liver diseases, and how to protect people from them.
Kathryn Oliver, PhD	Cystic Fibrosis; Pulmonary	The Oliver Lab studies how tiny changes in our genes can lead to rare lung diseases like Primary Ciliary Dyskinesia (PCD) and Cystic Fibrosis (CF). We look at how cells make proteins and what happens when that process goes wrong, especially when the “ribosome” (the part of the cell that builds proteins) makes mistakes or slows down. We also test existing and new drugs to see which combinations work best for certain rare CF mutations — especially those found in Black, Indigenous, and People of Color, who are often underrepresented in research. Students in the lab get hands-on experience with a variety of research techniques, including cell culture, gene and protein analysis, and experiments that measure how well airway cells move mucus and transport ions. This work helps us understand disease mechanisms and develop better treatments for people with CF and related conditions.
Sunil Raikar, MD	Discovery and Developmental Therapeutics	The overall goal of Dr Raikar’s research program is to develop novel therapeutics for pediatric blood cancers through (i) development of innovative cellular immunotherapies utilizing chimeric antigen receptors, (ii) production of novel recombinant protein-based therapeutics such as L-asparaginase and (iii) identifying new therapeutic targets in rare leukemias utilizing advanced bioinformatic tools. The specific diseases his laboratory investigates include acute lymphoblastic leukemia, acute myeloid leukemia and mixed phenotype acute leukemia.

Jessica Raper, PhD	Developmental and Cognitive Neuroscience Emory Primate Center	Dr. Raper's research centers on understanding how early brain insults shape long-term socioemotional and neuroendocrine development, with the goal of uncovering mechanisms underlying neuropsychiatric disorders. As a developmental neuroscientist specializing in behavioral neuroendocrinology, she uses nonhuman primate models to study how disruptions to vulnerable temporal lobe structures, such as the amygdala and hippocampus, affect behavior and stress regulation. These insults—ranging from perinatal hypoxia and viral infections to neonatal anesthesia exposure and early-life adversity—can cause lasting alterations in emotional regulation and hypothalamic-pituitary-adrenal axis function. Her work connects these developmental changes to conditions like autism spectrum disorder, schizophrenia, and mood disorders, all of which share difficulties with social, emotional, and stress regulation. By integrating behavioral analyses, stress neuroendocrinology, and experimental manipulations such as viral infection, anesthesia, and chemogenetics, her lab aims to reveal the neurobiological mechanisms driving these alterations and to advance understanding of how early brain development shapes lifelong mental health.
Stefan Sarafianos, PhD	Infectious Disease	Our lab studies how viruses work and how we can stop them. Even though medicine has improved, viral diseases like HIV, Hepatitis B, and COVID-19 still cause serious health problems around the world. We focus on understanding the basic biology of viruses — how they infect cells, how they reproduce, and how our bodies respond. By studying viruses such as SARS-CoV-2 (which causes COVID-19) and others that can spread quickly, we hope to find their weak points. We use tools like X-ray crystallography, biochemistry, and virology to look closely at how viruses interact with human cells and drugs. This helps us identify new ways to design treatments and prevent future outbreaks. In short, we explore the tiny details of how viruses survive so scientists can develop better medicines to fight them.
Chunhui Xu, PhD	Cell and Molecular Biology	Research in Dr. Xu's laboratory is focused on human cardiomyocytes derived from human pluripotent stem cells, which hold promise for cardiac cell therapy, disease modeling, drug discovery and the study of developmental biology. They have been collaborating with investigators at Georgia Tech, Emory University, and Children's Healthcare of Atlanta, establishing new technologies and disease models for stem cell and cardiovascular research.
Jason Yustein, MD, PhD	Cancer/Blood Disorders	Treating pediatric sarcomas with targeting agents and immunotherapeutic approaches. The student will help perform in vitro studies assessing the efficacy of therapies and learn about in vivo animal studies.

The **Coordinated Pediatric Pathway Planning Office (C3PO)** helps students and trainees explore careers in pediatric research. The office offers guidance, resources, and opportunities to connect with mentors and research programs. If you are interested in learning more about these projects or would like support in getting involved, please reach out to one of the contacts below:

Contacts:

Clovis Sarmiento, MD (csarmi3@emory.edu) – Associate Director, Administration and Predoctoral Programs

Megan Vallowe, PhD (megan.vallowe@emory.edu) – Associate Director, Postdoctoral Programs

For more information about our pediatric research programs, visit www.pedsresearch.org.