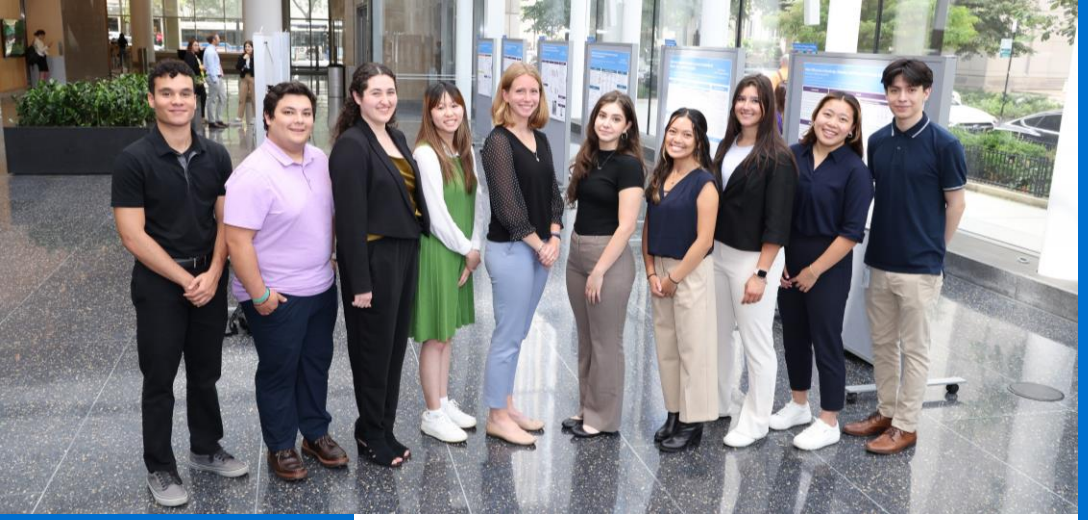
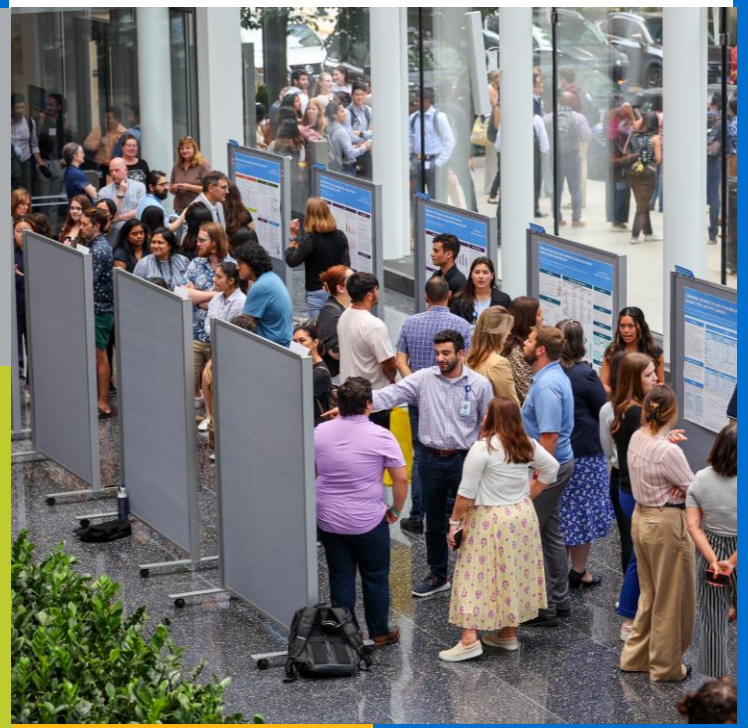


Stanley Manne
Children's Research Institute™



Katz and Manne Research Institute Summer Scholars Program Faculty Book 2024

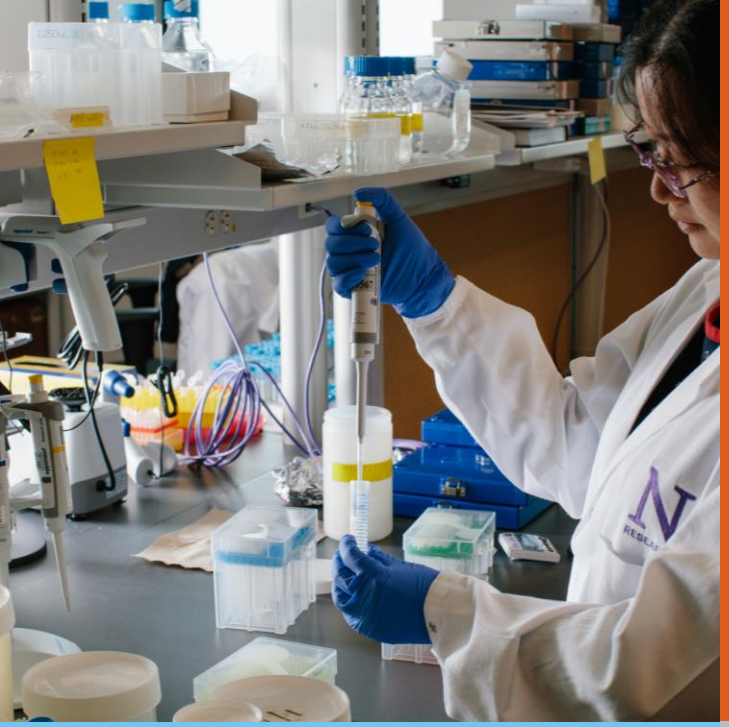
2024 Summer Scholars

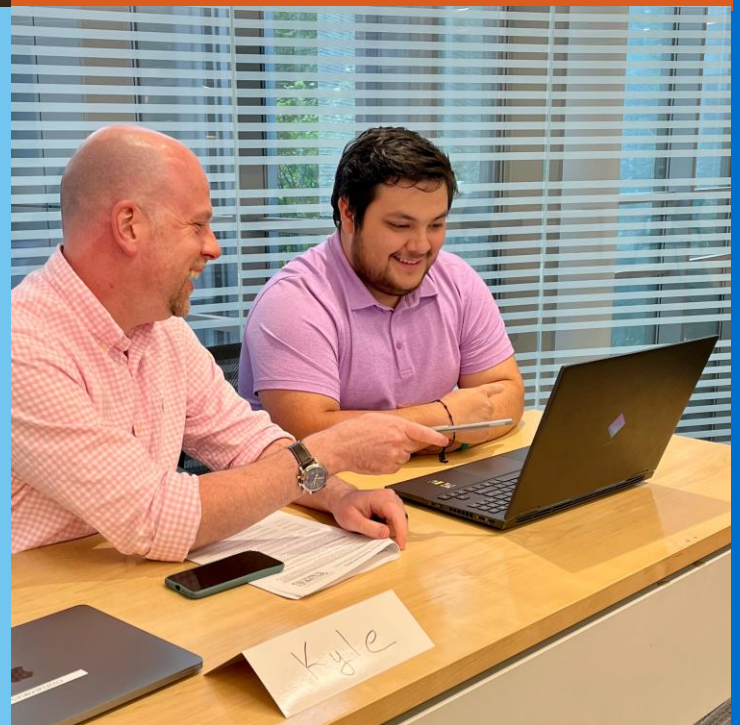
Stanley Manne Children's Research Institute at Ann & Robert H. Lurie Children's Hospital of Chicago is pleased to announce the 2024 Katz and Manne Research Institute Summer Scholars Program. The program provides undergraduates with summer experiences in research related to childhood health and disease through the ongoing generosity of the Robert Louis Katz Medical Research Foundation and Manne Research Institute. We offer competitive, paid research opportunities with research institute investigators located within the biomedical campus in the heart of downtown Chicago's Streeterville neighborhood.

Summer scholars spend eight weeks working daily with their faculty mentor and research team. In addition, the summer scholars participate in a weekly course to socialize while learning about scientific presentations and careers in science from participating faculty members. Some scholars continue to work on research beyond the program.

Manne Research Institute and Lurie Children's are equal opportunity employers and work to accommodate challenges and barriers to scientific research experiences. Highly motivated students with diverse life and academic backgrounds are encouraged to apply.

We are currently accepting applications for summer 2024. Applications are due by January 26, 2024. Award notifications will be sent by email near the end of March 2024. Students should refer to this faculty book when choosing mentor preferences in the application. Please remember that applications must be complete for program consideration.





Faculty List

Monica E. Bianco

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Amanda Burnside

Carolyn Foster

Sara Huston

Joseph Janicki

Jami Josefson

Kyle MacQuarrie

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Justin Ryder

JF Sarwark

Pat Seed

Seema Shah

Andrea Spencer

Faith Summersett Williams

Joshua Wechsler

Debra Weese-Mayer

Joyce Woo

Monica E. Bianco, MD

Attending Physician, Endocrinology, Ann & Robert H. Lurie Children's Hospital of Chicago; Assistant Professor of Pediatrics (Endocrinology), Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Bianco should expect to:

"It is my goal to assess hypertension recognition and treatment in children with type 2 diabetes as a summer project. The scholar will also work on database development and with other members of my team to get exposure to clinical trials and other clinical research in endocrinology."

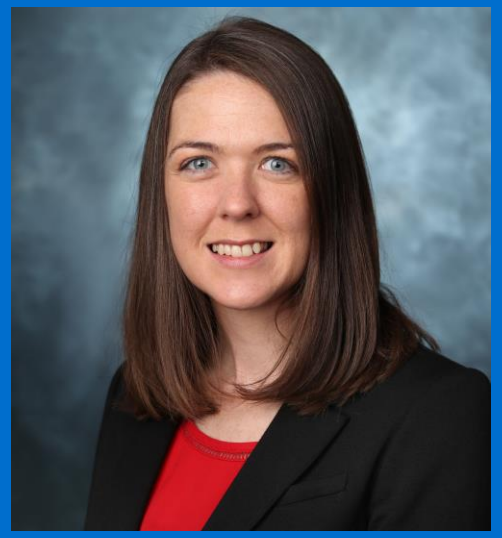
Dr. Bianco's clinical interests are diabetes and childhood obesity. Her research areas of focus are studying the effects of the fetal environment on offspring health, and the effects of hyperglycemia during pregnancy on the offspring. More recently, her research is to identify early maternal/fetal markers predictive of youth onset type 2 diabetes in the offspring.

Dr. Bianco's research focus is on youth onset type 2 diabetes, and she is developing a database of patients with disease and assessing improved ways to diagnose, manage, and treat this patient population.

Quick Facts

Department: Pediatrics
Division: Endocrinology
Research Pillars: Clinical and Community Trials; Community, Population Health, and Outcomes

Dr. Bianco's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Monica E. Bianco, MD



Kathleen Boyne, MD

Attending Physician, Pulmonary Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago; Assistant Professor of Pediatrics (Pulmonary and Sleep Medicine), Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Boyne should expect to:

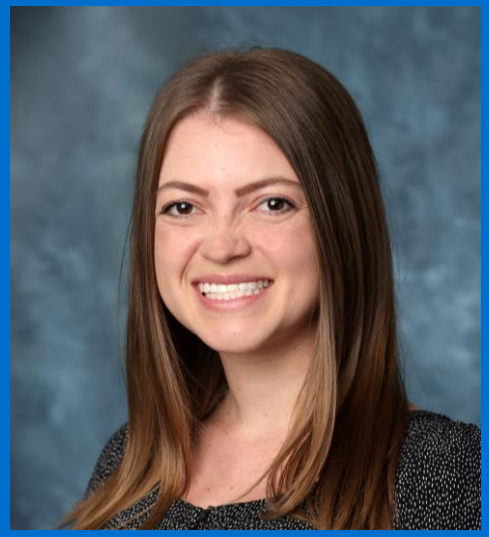
"In our lab, we primarily utilize airway epithelial cell models and bacterial cultures to study relevant host-pathogen interactions and to identify potential therapeutic targets. We also collect and analyze exhaled breath condensate and sputum samples to investigate mechanisms relevant to establishing the lung microbiome. As a summer scholar, you would primarily be conducting experiments in the laboratory."

As a physician scientist within the division of pulmonary medicine, Dr. Boyne provides clinical care for children with respiratory concerns and runs a basic/translational laboratory. Her focus area is cystic fibrosis, the most common genetic life-shortening disease in the United States. Mutations in the CFTR gene lead to defects in a channel important for water and electrolyte balance, resulting in build-up of thick, sticky mucus in the lungs, increased inflammation, and chronic infection. The Boyne Laboratory investigates cellular mechanisms driving infection and inflammation in the lungs, focusing on host-microbial interactions that modify the landscape of microbiota within the cystic fibrosis airway.

Quick Facts

Department: Pediatrics
Division: Pulmonary and Sleep Medicine
Research Pillar: Basic and Preclinical Science

Dr. Boyne's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Kathleen Boyne, MD



Amanda Burnside, PhD

Pediatric Psychologist, The Pritzker Department of Psychiatry and Behavioral Health, Ann & Robert H. Lurie Children's Hospital of Chicago; Assistant Professor of Psychiatry and Behavioral Sciences, Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Burnside should expect to:

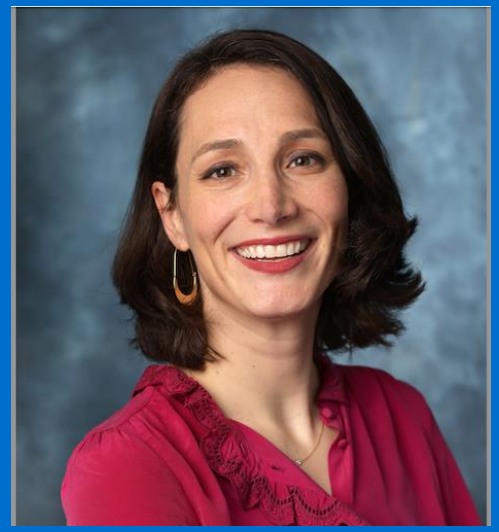
"Contribute to retrospective chart review work, literature reviews, and participant interviews."

Dr. Burnside's work focuses primarily on suicide prevention in hospital settings, particularly the emergency department. She is interested in universal suicide screening for all youth ages 10 and older who present to the hospital and evaluating these screening outcomes particularly among transgender and gender diverse youth, and youth who did not present to the hospital for a mental health chief complaint. Her work has a particular health equity focus and she recently received a grant from the American Foundation for Suicide Prevention to better identify how to ensure that all youth equitably receive suicide screening both at Lurie Children's and a community hospital.

Quick Facts

Department: Psychiatry and Behavioral Sciences
Division: Psychology
Research Pillars: Community, Population Health, and Outcomes; Quantitative Sciences

Dr. Burnside's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Amanda Burnside, PhD



Carolyn Foster, MD, MS

Attending Physician, Advanced General Pediatrics and Primary Care, Ann & Robert H. Lurie Children's Hospital of Chicago; Co-Research Lead, Telemedicine, Lurie Children's; Assistant Professor of Pediatrics (Advanced General Pediatrics and Primary Care), Northwestern University Feinberg School of Medicine

Dr. Foster is a health services researcher who focuses on developing and evaluating health care delivery interventions for children with medical complexity and disability that maximizes their health outcomes and participation within a family context. As Director of Manne Research Institute's Health@Home research initiative, she helps guide evaluation of the use of emerging health technologies across the pediatric health care continuum with a focus on care at home. Dr. Foster has funding from the NIH to develop remote patient monitoring in care for children dependent on home mechanical ventilation and AHRQ. Dr. Foster's lab website is sites.northwestern.edu/fosterhealthlab/.

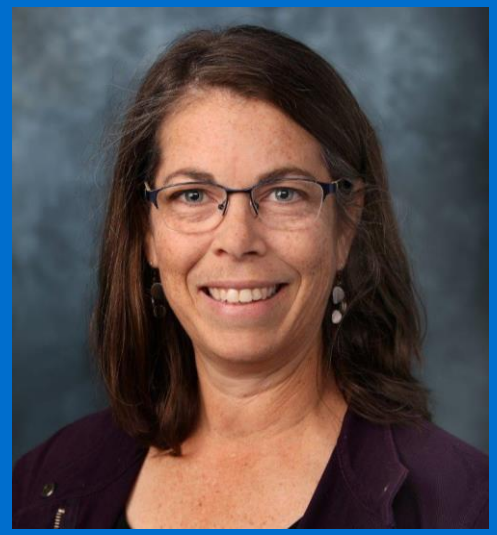
Students selected to work with Dr. Foster should expect to:

"Potential projects and activities may include assisting with parent-patient recruitment into lab studies, including remote patient monitoring studies; assisting with analyzing (coding) qualitative and/or survey data; creating 'engagement' content with families of children with disability to educate and connect them to resources as part of their participation in a national cohort study; and expanding our Patient Safety Learning Lab website content."

Quick Facts

Department: Pediatrics
Division: General Pediatrics and Primary Care/Complex Care Program
Research Pillar: Community, Population Health, and Outcomes

Dr. Foster's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Carolyn Foster, MD, MS



Sara Huston, MS

Research Assistant Professor of Pediatrics, Northwestern University Feinberg School of Medicine

Students selected to work with Sara Huston should expect to:

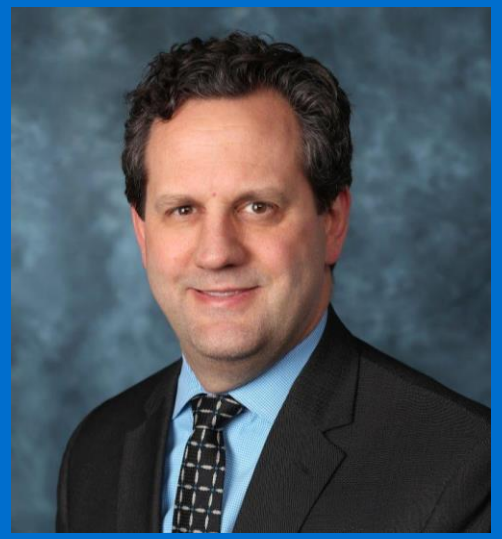
"The summer research project will involve landscape mapping of biometric tools (facial recognition, DNA) in Chicago and select other municipalities. Work can be mostly remote/off-site and will require a person willing to cold call organizations (like companies) for inquiries."

Huston's policy research focuses on genetic testing applications in humanitarian efforts, medicine, and law enforcement. She is exploring policy challenges for applying scientific technologies to human identification in human rights contexts, such as missing persons, human trafficking, migration, and adoption fraud.

Quick Facts

Department: Pediatrics
Division: General Pediatrics and Primary Care/Complex Care Program
Research Pillar: Community, Population Health, and Outcomes

Huston's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Sara Huston, MS



Joseph A. Janicki, MD

Attending Physician, Division of Orthopaedic Surgery and Sports Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago; Associate Professor of Orthopaedic Surgery Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Janicki should expect to:

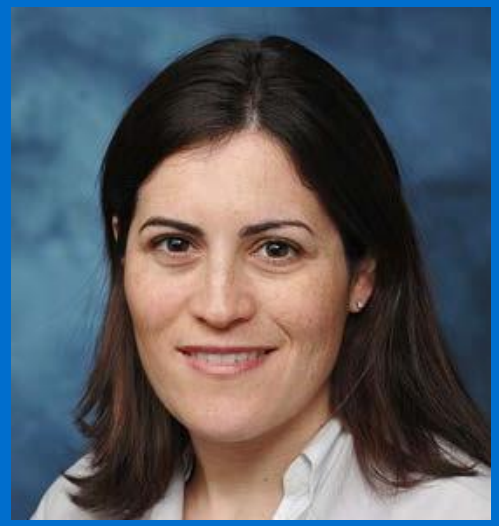
"The summer scholar would work with our orthopaedic research team on clinical research such as chart review, patient recruitment for studies, and subject follow-up surveys. We may have the scholar assist with database input and basic data analysis. They will also have the opportunity to shadow us in clinic where we see patients and in the operating room."

Dr. Janicki's clinical focuses are pediatric hip disorders (hip dysplasia, Perthes disease, and slipped capital femoral epiphysis), adolescent hip preservation, extremity deformity, and trauma management. Some of his research interests are bone health in children and adolescents, specifically, in using fractures to predict low bone density fracture management hip dysplasia and hip preservation techniques. He leads much of the research effort in the Division of Orthopaedic Surgery and Sports Medicine and has created infrastructure and collaborations necessary to complete studies, including the recruitment of four full-time research personnel.

Quick Facts

Department: Surgery
Division: Pediatric Orthopaedics
Research Pillars: Clinical and Community Trials; Community, Population Health, and Outcomes

Dr. Janicki's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Joseph A. Janicki, MD



Jami Josefson, MD

Attending Physician, Endocrinology, Ann & Robert H. Lurie Children's Hospital of Chicago; Associate Professor of Pediatrics (Endocrinology), Northwestern University Feinberg School of Medicine

Dr. Josefson's research field is the developmental origins of childhood metabolic diseases. She currently leads an observational study of maternal-infant pairs where she is studying breast milk composition and infant growth and adiposity. This study is funded by NIH/NICHD and she will actively be enrolling participants throughout 2024.

Students selected to work with Dr. Josefson should expect to:

"The summer scholar will work on recruitment, prepare for and attend study visits with mothers and their infants, and conduct data entry. This aspect of clinical study contribution will be under the supervision of the project manager and study coordinators. The scholar will also work on literature reviews under the direction of the principal investigators on human milk composition and infant growth."

Quick Facts

Department: Pediatrics
Division: Endocrinology
Research Pillars: Clinical and Community Trials; Community, Population Health, and Outcomes

Dr. Josefson's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Jami Josefson, MD

Kyle MacQuarrie, MD, PhD

Attending Physician, Hematology, Oncology, Neuro-Oncology, and Stem Cell Transplant, Ann & Robert H. Lurie Children's Hospital of Chicago; Instructor of Pediatrics, Northwestern University Feinberg School of Medicine

As a pediatric oncology physician-scientist, Dr. MacQuarrie's work is at the intersection of cancer and normal developmental biology, primarily focusing on the pediatric tumor rhabdomyosarcoma, as well as normal developing muscle cells. His interest is in uncovering elements of the biology of the tumor cells that could be used to improve the care of children with cancer. His current work focuses on the way that the nucleus of the cell and the genome it contains are organized.

Students selected to work with Dr. MacQuarrie should expect to:

"A summer scholar could expect to work with cancer and normal developing cells in vitro (in dishes in other words), performing experiments focused on understanding their biology. Experiments in our group often involve the use of microscopes, special techniques to visualize specific parts of the cell, and various computational tools to analyze the imaging data."

Quick Facts

Department: Pediatrics
Division: Hematology, Oncology, Neuro-Oncology, and Stem Cell Transplant
Research Pillar: Basic and Preclinical Science

Dr. MacQuarrie's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Kyle L. MacQuarrie, MD, PhD

Amanda Marma Perak, MD, MSCI, FAHA, FACC

Attending Physician, Cardiology, Ann & Robert H. Lurie Children's Hospital of Chicago; Assistant Professor of Pediatrics (Cardiology) and Preventive Medicine, Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Marma Perak should expect to:

"There are various options across my projects, for example, survey development, testing recruitment methods, development of digital intervention materials, assisting with analysis of survey or interview data, developing workflows for obtaining EMR data at scale, etc."

Dr. Marma Perak's clinical specialty is pediatric preventive cardiology (treating children and adolescents with risk factors for atherosclerotic cardiovascular disease). Her research focuses on defining and intervening at the origins of cardiovascular health and disease. A major way she seeks to do this is by creating evidence-based, protocolized processes and programs (interventions) that can be implemented widely by others. Currently, she is working on a longitudinal mixed methods (epidemiologic and qualitative) study of 5,000 mothers, plus their infants and partners, to understand drivers of cardiovascular health from pre-pregnancy through pregnancy and postpartum when the child is age 2 years. She is also conducting an intervention development and pilot trial of a novel digital behavioral intervention for adolescents with cardiovascular risk factors to improve cardiovascular health, incorporating novel identity and emotion mechanisms.

Quick Facts

Department: Pediatrics/Preventative Medicine
Division: Cardiology/Epidemiology
Research Pillars: Community, Population Health, and Outcomes; Clinical and Community Trials

Dr. Marma Perak's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Amanda Marma Perak, MD, MSCI, FAHA, FACC

Kelly Michelson, MD, MPH

Attending Physician, Critical Care, Ann & Robert H. Lurie Children's Hospital of Chicago; Professor of Pediatrics (Critical Care), Northwestern University Feinberg School of Medicine; Director, Center for Bioethics and Medical Humanities, Northwestern University Feinberg School of Medicine; Julia and David Uihlein Professor of Bioethics and Medical Humanities, Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Michelson should expect to:

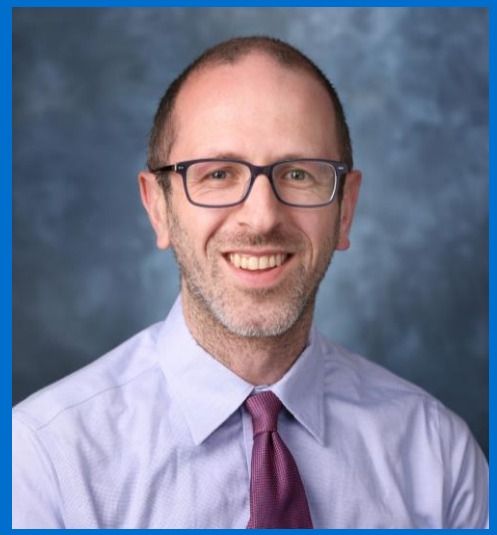
"The student would participate in an ongoing randomized comparative trial of two interventions designed to help families find community-based bereavement support services following a child's acute or unexpected death."

Dr. Michelson's research interests include communication, decision making, palliative care, bereavement support, and bioethics. Her research focuses on communication and decision making among patients, family caregivers, and professional caregivers in the pediatric intensive care unit as well as in the palliative care setting. She studies approaches to ensure that high-quality bereavement support is available to people impacted by pediatric death. She also studies bioethical issues related to artificial intelligence in healthcare. Her work uses qualitative and quantitative methods as well as patient/parent engagement and community-based participatory research methods.

Quick Facts

Department: Pediatrics
Division: General Pediatrics and Primary Care/Complex Care Program
Research Pillars: Clinical and Community Trials; Community, Population Health, and Outcomes

Dr. Michelson's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Kelly Michelson, MD, MPH



Ken Michelson, MD, MPH

Attending Physician, Critical Care, Ann & Robert H. Lurie Children's Hospital of Chicago; Associate Professor of Pediatrics (Emergency Medicine), Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Michelson should expect to:

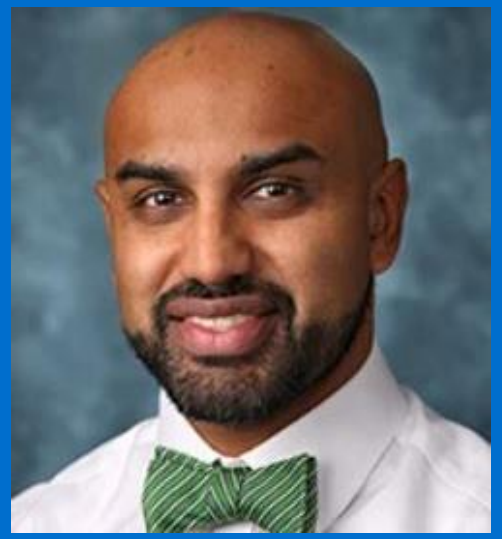
"Involvement depends a little on the students' interests, skill set, and state of my projects at the time of the program. We'd meet to define roles and responsibilities."

Dr. Michelson is most interested in emergency system performance: How well do emergency departments care for children? How much capacity does our system have, and how do we maximize it? How can all emergency departments provide outstanding care for children? He wants to design interventions to bring pediatric expertise to all emergency departments in the nation. Using innovative methods, Dr. Michelson uses large healthcare databases to understand emergency department performance and design targeted interventions.

Quick Facts

Department: Pediatrics
Division: Emergency Medicine
Research Pillar: Community, Population Health, and Outcomes

Dr. Michelson's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Kenneth Michelson, MD, MPH



Neeraj Patel, MPH, MD, MBS

Attending Physician, Division of Orthopaedic Surgery and Sports Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago; Assistant Professor of Orthopaedic Surgery Northwestern University Feinberg School of Medicine

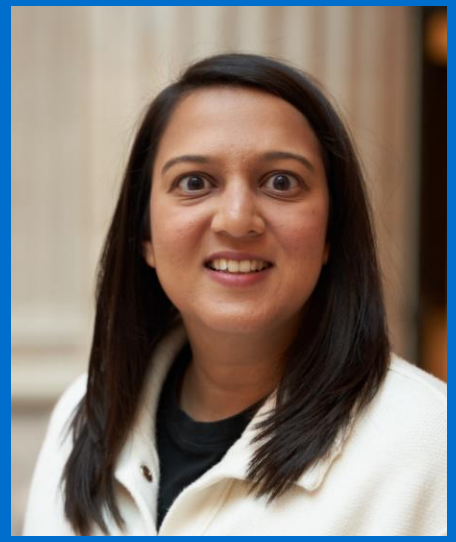
Students selected to work with Dr. Patel should expect to:
"Depending on the project that the summer scholar partners on, responsibilities may include retrospective chart review, literature review, and assistance with survey development. The student will have the opportunity for authorship on any abstracts or manuscripts that emerge from their research."

Dr. Patel is a pediatric orthopaedic surgeon specializing in sports medicine (ACL injuries, meniscus tears, etc.). His research focuses on clinical outcomes in pediatric orthopaedics and sports medicine as well as healthy equity in these areas. His team leads a variety of studies, from retrospective research to multi-center, randomized clinical trials. He is also developing new community-based projects and disparities research that centers patient perspectives, academic approaches that are uncommon in orthopaedics. As a mentor, Dr. Patel is committed to providing guidance on each step of the research process, while using the research as a basis for teaching about orthopaedics, health equity, and other topics.

Quick Facts

Department: Surgery
Division: Orthopaedic Surgery
Research Pillars: Clinical and Community Trials; Community, Population Health, and Outcomes

Dr. Patel's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Neeraj Patel, MPH, MD, MBS



Pooja Patel, DO

Attending Physician, Rheumatology, Ann & Robert H. Lurie Children's Hospital of Chicago; Instructor of Pediatrics (Rheumatology), Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Patel should expect to:
"As the pediatric lupus population in Chicago continues to increase, we have an exciting opportunity to create a lupus registry at Lurie Children's through retrospective chart review and Epic-based data extraction. A prospective summer scholar will have the opportunity to review the database and create a meaningful/impactful study focused on health outcomes in pediatric lupus."

Dr. Patel's clinical and research interest is in pediatric onset lupus/systemic lupus erythematosus. Along with clinical research and database management, she has an interest in clinical trials, which is an exciting avenue in pediatric rheumatology as new medications are being introduced to the market yearly. She currently has clinical trials for patients with juvenile idiopathic arthritis and systemic lupus erythematosus. In addition to this, she has a special focus on health equity as it relates to children with lupus. Racial disparities in outcomes of childhood-onset systemic lupus erythematosus have persisted over time. Area-level resources for children may mediate inequitable outcomes of pediatric systemic lupus erythematosus at numerous points, including initial access to subspecialty care and after establishing care.

Quick Facts

Department: Pediatrics
Division: Rheumatology
Research Pillars: Clinical and Community Trials; Community, Population Health, and Outcomes

Dr. Patel's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Pooja Patel, DO

Joseph Runde, DO

Attending Physician, Gastroenterology, Hepatology, and Nutrition, Ann & Robert H. Lurie Children's Hospital of Chicago; Assistant Professor of Pediatrics (Gastroenterology, Hepatology, and Nutrition), Northwestern University Feinberg School of Medicine

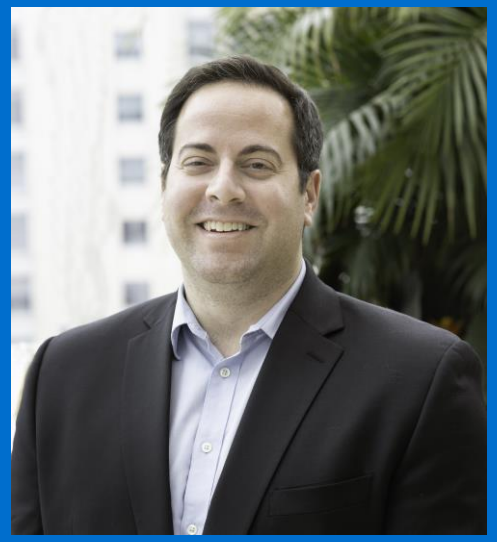
Dr. Runde's clinical focus is on pediatric inflammatory bowel disease with a special emphasis on dietary therapy for control of inflammation. During the past couple of years, he has published studies on the gut microbiome in children with Crohn's disease and surgical outcomes for those with ulcerative colitis. He is currently managing projects related to contrast-enhanced ultrasound, very early onset inflammation bowel disease, and culinary medicine for our kids with inflammatory bowel disease. He believes he has a number of meaningful projects with appropriate scale for a summer scholar.

Students selected to work with Dr. Runde should expect to:
"We have one of the largest pediatric inflammatory bowel disease programs in the country and we use some of the most cutting-edge therapies to help these patients achieve disease remission. We are increasingly looking to share our experience with the rest of the inflammatory bowel disease community through retrospective clinical research and/or survey data from our highly motivated patient family population. I have several ideas related to medications, diets and surgery, but I am also open to developing a project that meets the scholar's needs and interests."

Quick Facts

Department: Pediatrics
Division: Gastroenterology
Research Pillar: Clinical and Community Trials

Dr. Runde's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Joseph Runde, DO



Justin Ryder, PhD

Vice Chair of Research for the Department of Surgery, Ann & Robert H. Lurie Children's Hospital of Chicago; Associate Professor of Surgery and Pediatrics, Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Ryder should expect to:
"Work on clinical trials, observe visits, and work on a discreet focused project."

Dr. Ryder is a clinical translational pediatric obesity researcher focused on understanding the biology underlying treatment response for pediatric obesity. The goal of his NIH-funded research is to expedite the translation of treatment from adults to children for the disease of obesity and improve short-term and long-term outcomes for youth with obesity. His highly collaborative works span the continuum of treatment with studies focused on lifestyle modification, medications, and surgery. He currently serves as the Vice Chair of Research for the Department of Surgery at Lurie Children's.

Quick Facts

Department: Surgery
Division: Pediatric Surgery
Research Pillar: Clinical and Community Trials; Basic and Preclinical Science

Dr. Ryder's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Justin Ryder, PhD

JF Sarwark, MD

Attending Physician, Division of Orthopaedic Surgery and Sports Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago; Martha Washington Foundation Professorship in Pediatric Orthopaedics, Lurie Children's; Professor of Orthopaedic Surgery, Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Sarwark should expect to:

"Contribute to the completion of a clinical series outcomes publication. Meet and collaborate with Northwestern University biomechanical engineering colleagues and PhD candidates."

Dr. Sarwak focuses on pediatric spine/spine deformity, growth and etiology of idiopathic scoliosis, medical education, and surgical skills acquisition training.

Quick Facts

Department: Surgery
Division: Orthopedics and Sports Medicine
Research Pillars: Community, Population Health, and Outcomes; Quantitative Science

Dr. Sarwark's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - JF Sarwark, MD

Patrick C. Seed, MD, PhD, FIDSA

President & Chief Research Officer, Stanley Manne Children's Research Institute; Attending Physician, Infectious Disease, Ann & Robert H. Lurie Children's Hospital of Chicago; Children's Research Fund Chair in Basic Science; Professor of Pediatrics (Infectious Disease) and Microbiology-Immunology, Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Seed should expect to:
"Take part in research projects that focus on the microbiome that provides protection against colonization by pathogens such as Streptococcus pneumonia, the leading cause of bacterial pneumonia in the world. Student(s) will use proteomics, biochemistry, and molecular biology to identify novel antimicrobial molecules produced by Corynebacterium species, ubiquitous members of the respiratory tract microbiome, that target pathogens and prevent them from invading a microbiome where they can produce infectious diseases. In addition to hands-on laboratory work, an interested student may participate in microbiome bioinformatics."

Dr. Seed's clinical focuses are clinical consultation and expertise for a variety of complex pediatric infectious diseases, including infections of children with multidrug-resistant infections, compromised immune systems, and organ and stem cell transplantation. Some of his research interests aim to translate molecular knowledge of microbial/microbiome genetics, physiology, and pathogenesis into diagnostics and treatments for a broad range of pediatric diseases. The Seed Research Group combines human clinical studies, conventional and germ-free animal models, molecular genetics, immunology, biochemistry, structural biology, high-dimensional data computational analysis, and complementary 'omics technologies, including genomics, metagenomics, transcriptomics, meta transcriptomics, and metabolomics to understand complex systems.

Quick Facts

Department: Pediatrics
Division: Infectious Diseases
Research Pillars: Basic and Preclinical Science; Quantitative Science

Dr. Seed's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Patrick C. Seed, MD, PhD, FIDSA

Seema Shah, JD

Founders' Board Professor of Medical Ethics; Associate Professor of Pediatrics (Advanced General Pediatrics and Primary Care) and School of Law

Shah's work focuses on research ethics, and particularly research on global health and pediatrics. She studies what kinds of research are ethically acceptable in emergencies, how to learn from the COVID-19 pandemic to do a better job of including children in research in the future, and how to improve research oversight to better address ethical challenges.

Students selected to work with Seema Shah should expect to:

"We will be analyzing data from qualitative research with parents and adolescents about research ethics failures during the COVID-19 pandemic and conducting a national survey to understand the top 10 priorities for pediatric pandemic preparedness in the future. The summer scholar will be able to help analyze data and conduct literature reviews related to this work, with an opportunity to be on publications that disseminate the work to a larger audience."

Quick Facts

Department: Surgery
Division: Advanced General Pediatrics/SCHORE
Research Pillar: Community, Population Health, and Outcomes

Seema Shah's Northwestern University Feinberg School of Medicine faculty profile page:
Researcher Profile - Seema Shah, JD

Andrea Spencer, MD

Vice Chair for Research, Pritzker Department of Psychiatry and Behavioral Health, Ann & Robert H. Lurie Children's Hospital of Chicago

Students selected to work with Dr. Spencer should expect to:

"Students will have the opportunity to help recruit participants to our ADHD research study. They will also be able to co-deliver our intervention and shadow Dr. Spencer while she is evaluating participants for ADHD. Students will also gain experience coding qualitative data."

Dr. Andrea Spencer is a clinician and researcher who is passionate about improving mental health care for disadvantaged children, in particular reducing disparities in care for attention-deficit/hyperactivity disorder (ADHD) related to race, ethnicity, and socioeconomic status. Her research currently focuses on developing and testing innovative methods to improve and reduce disparities in ADHD treatment and outcomes. Some of the current research projects include testing a novel ADHD engagement intervention ("START") to improve access to treatment and pilot testing PRE-CARE to address unmet social needs for preschoolers with inattention or hyperactivity.

Quick Facts

Department: Psychiatry
Division: N/A
Research Pillar: Community, Population Health, and Outcomes, Clinical and Community Trials

Dr. Spencer's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Andrea Spencer, MD

Faith Summersett Williams, PhD

Pasquale Family Research Scholar, Ann & Robert H. Lurie Children's Hospital of Chicago; Assistant Professor of Research, Northwestern University Feinberg School of Medicine

Implementation Science + Health Equity Advancement Lab's (I+HEAL) mission is the use of implementation science to promote health equity and justice to center the values and needs of historically marginalized communities. Health justice is achieved through dismantling the effects of oppression in the form of 'isms and phobias to achieve sustainable and equitable policies so that all people have access to quality healthcare and social services such as education, housing, and food. I+HEAL's current projects focus on implementing evidence-based alcohol and drug use programs for a particularly vulnerable population: adolescents and young adults with chronic medical conditions who also use alcohol and drugs. I+HEAL collaborates with partners to study the implementation process for this population in three unique settings: clinical (pediatric inpatient units), community (school-based health centers), and international (health clinics in post-apartheid South Africa).

Students selected to work with Dr. Summersett Williams should expect to:

"This summer research intern position will provide hands-on experience working in behavioral implementation research and evaluation efforts within the Division of Adolescent and Young Adult Medicine at Lurie Children's. The main duties of this position will be to support faculty and staff with critical research and clinical-related tasks such as creating recruitment materials, distributing recruitment materials, collecting study data, and managing study databases."

Quick Facts

Department: Pediatrics
Division: Adolescent and Young Adult Medicine
Research Pillars: Clinical and Community Trials; Community, Population Health, and Outcomes

Dr. Summersett Williams' Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Faith Summersett Williams, PhD

Joshua B. Wechsler, MD, MSCI

Attending Physician, Gastroenterology, Hepatology and Nutrition, Ann & Robert H. Lurie Children's Hospital of Chicago; CURED (Campaign Urging Research for Eosinophilic Disease) Foundation Research Scholar, Lurie Children's; Assistant Professor of Pediatrics and Medicine, Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Wechsler should expect to:

"Conduct multicolor immunofluorescence to assess whether specific cells, including T-cells, mast cells, fibroblasts, and basal epithelial cells, differ based on the extent of scarring determined by EndoFLIP (this project includes quantification of the cells and biostatistics), and isolate RNA and RNA-sequencing on stored esophageal biopsies to assess differences in patients with active eosinophilic esophagitis with and without scarring assessed by EndoFLIP (this project will involve RNA isolation and bioinformatic analysis on R)."

Dr. Wechsler works to understand pathogenesis and improve outcomes for patients with eosinophilic esophagitis (EoE) who struggle with poor quality of life due to persistent symptoms, co-morbidities, and progressive scarring (fibrosis). While it's thought that scarring develops slowly, half of adults have an esophageal stricture at presentation. It's likely that much of this began in childhood as esophageal rings, which are thought to be precursors of strictures and are well appreciated in up to 40 percent of children with EoE. The standard to assess scarring in children has been the endoscopic reference score, which Dr. Wechsler validated in children and found ring grade is poorly responsive to treatment that reduces eosinophils. Mild (grade 1) rings can be hard to detect. EndoFLIP is a tool that allows for assessment of esophageal distensibility. Dr. Wechsler identified that distensibility index (DI: diameter2/pressure) correlates with the endoscopic severity of rings with only minimal changes based on the presence or absence of inflammation. He established parameters to define the 'rigid' esophagus, which allows for mechanistic studies of early fibrostenosis. He performs EndoFLIP in 75 percent of patients undergoing endoscopy, and 60 percent are consented to collect research biopsies. This includes EoE patients and non-EoE controls with symptoms suggestive of EoE. His colleagues perform endoscopy on EoE and non-EoE patients whom they consent to collect research biopsies as well. His lab utilizes mucosal biopsies of the esophagus to characterize many aspects of EoE (immune profile, barrier dysfunction, cellular milieu). These biopsies can be assessed using techniques including enrichment of rare cells with ex vivo assays, bulk and single cell RNA sequencing, proteomics, or immunohistochemistry. Summer projects leverage the repository of clinical data and specimens Dr. Wechsler's research team has procured.

Quick Facts

Department: Pediatrics
Division: Gastrointestinal Medicine
Research Pillars: Basic and Preclinical Science; Quantitative Science

Dr. Wechsler's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Joshua B. Wechsler, MD, MS

Debra Weese-Mayer, MD

Chief, Center for Autonomic Medicine in Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago; Professor of Pediatrics (Critical Care), Northwestern University Feinberg School of Medicine

Pediatric Autonomic Medicine and the Center for Autonomic Medicine in Pediatrics (CAMP) is a one-of-a-kind program focused on patients with disorders of respiratory control and/or the autonomic nervous system (ANS; the system that functions automatically to sustain life). Patients travel from all over the world to be evaluated here, and typically have either congenital central hypoventilation syndrome (CCHS) or rapid-onset obesity with hypothalamic dysfunction, hypoventilation and autonomic dysregulation (ROHHAD). CAMP has an inpatient program (typically 4 days/4 nights) and an outpatient program (for patients with more common conditions who also have ANS dysregulation). Research and clinical programs are integrated so that students will have the opportunity to appreciate the questions that arise based on clinical care and the application of the new knowledge to improve patient care and decrease disease burden. The current research focuses are on the identification of transferrable biomarkers in patients with CCHS and ROHHAD for potential intervention trials; validation of wireless wearable devices in-hospital in anticipation of in-home studies; use of big data to study the effect of perinatal intermittent hypoxemia in extremely preterm-born infants on school-age sleep disordered breathing and neurodevelopmental impairment (followed at 5–9 years of age); physiologic effect of intermittent hypoxemia on neurodevelopmental testing using the NIH toolbox to characterize fluid and crystallized performance in CCHS and ROHHAD; and much more.

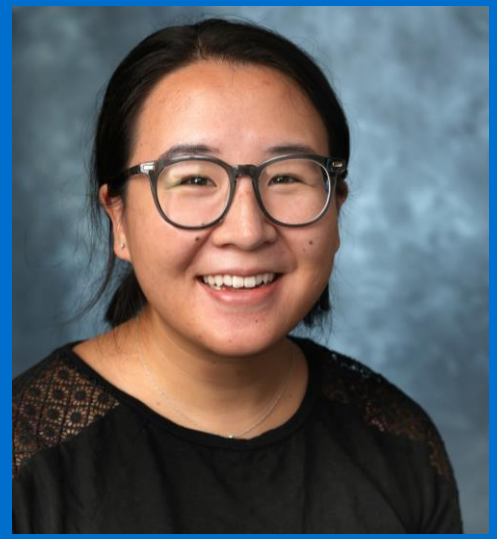
Students selected to work with Dr. Weese-Mayer should expect to:

"Student researchers will have the opportunity to work hands on with children who travel worldwide to be evaluated in our program. The students will work with dynamic physiologic recordings during varied activities of daily living awake and asleep in children with CCHS and ROHHAD, with aim to identify biomarkers that distinguish optimal management and disease progression with advancing age. This will include non-invasive measures of breathing, heart rate rhythm, blood pressure, temperature, oxygenation and ventilation, and more with advancing age. The students will also learn application of measures of ANS (dys)regulation that provide objective biomarkers in sleep and wakefulness. Students will have opportunities to work in big data from our ongoing study of infants born extremely prematurely (whose physiologic profile in the perinatal period is tightly chronicled) as we begin school age testing with the NIH Toolbox to study effect of perinatal intermittent hypoxemia on neurodevelopmental impairment. There are additional ongoing studies involving validation of wireless wearable devices in-hospital in anticipation of in-home studies. Between now and June when students arrive there will be additional studies in which they may participate. Our aim is to match talented student researchers with exciting research studies that will offer an introduction to pediatrics and the joy of making new knowledge with aim to improve care and optimize quality of life for the children we have the privilege of serving."

Quick Facts

Department: Pediatrics
Division: Autonomic Medicine
Research Pillars: Clinical and Community Trials; Quantitative Science

Dr. Weese-Mayer's Stanley Manne Children's Research Institute researcher profile page:
Researcher Profile - Debra E. Weese-Mayer, MD



Joyce Woo, MD, MS

Attending Physician, Cardiology, Ann & Robert H. Lurie Children's Hospital; Assistant Professor of Pediatrics (Cardiology), Northwestern University Feinberg School of Medicine

Students selected to work with Dr. Woo should expect to:
"The summer scholar will play an integral role in collecting data for a study that investigates the geographic barriers in access to fetal cardiology care. They will spend one day every 1–2 weeks gaining clinical experience in pediatric and fetal cardiology."

Dr. Woo is a pediatric and fetal cardiologist who studies healthcare delivery systems for patients with congenital heart defects, the most common and fatal birth defects in the United States. Prenatal diagnosis of congenital heart defects allow pregnant individuals to deliver at a hospital with the capabilities to manage congenital heart defects in the newborn. Dr. Woo's research investigates barriers in access to prenatal diagnosis of congenital heart defects.

Quick Facts

Department: Pediatrics
Division: Cardiology
Research Pillars: Community, Population Health, and Outcomes; Clinical and Community Trials

Dr. Woo’s Stanley Manne Children’s Research Institute researcher profile page:
Researcher Profile - Joyce Woo, MD, MS

Stanley Manne Children's Research Institute™

Office of Research Development

Questions? Email us at kmscholars@luriechildrens.org.