



Acknowledgements

We extend our sincere appreciation to all program directors, mentors, and their research teams, as well as program faculty and presenters, for their exceptional contributions to the success of our summer training programs. We also thank all trainees for their dedicated participation.

We greatly appreciate the efforts of the staff members of the Hypertension & Vascular Research Center for their invaluable program support. We thank the School of Medicine for the institutional resources that supported our trainees and their projects.

2025

**Cardiovascular and Aging Summer
Research Programs**

**Training in Research Affecting Child
Health (TRAC)**

SUMMER RESEARCH SYMPOSIUM

Thursday, July 24, 2025

9:00 am – 11:00 am

Biotech Place Atrium

**575 N. Patterson Avenue
Winston-Salem, NC 27101**



**Wake Forest University
School of Medicine**

Our **Cardiovascular and Aging Summer Research Programs** are currently supported through institutional funding from Wake Forest University School of Medicine (WFUSM). These long-running, highly successful internship programs in cardiovascular science (33 yrs, with NHLBI funding) and aging research (7 years, with NIA funding) provide unique research training opportunities to undergraduate students nationwide, who have an expressed interest in a career in cardiovascular or aging research.



Participants practice presentation skills



Graduate student panel sharing graduate career experiences at WFUSM



Collectively, the two programs offered over 500 research internships for undergraduate students. Outcomes include that >90% of participants earn a MSTEM BA/BS and ~80% enter biomedical science careers.



All our summer programs aim to enhance collaboration and peer networking among biomedical research training programs and include shared didactic sessions, career development workshops, and social events.



The **Training In Research Affecting Child Health (TRAC) Program** offers a child health and development research training opportunity for individuals across various educational levels, including undergraduate, graduate, and medical students, residents, and fellows. TRAC is funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development. Program participants are empowered to develop, implement, and complete their own collaborative research projects, under the guidance of faculty coach-mentors. Weekly TRAC meetings foster peer engagement and networking. After the immersive, full-time summer portion, the program continues throughout the following academic year (asynchronously, with continued virtual monthly group meetings) to allow participants to bring their projects to completion. Program outcomes include abstract submission to a pediatrics-focused conference, and submission of a first-authored manuscript to a high-impact, peer-reviewed journal.



Participants give oral presentations about their research projects.



Social events encourage networking

CARDIOVASCULAR & AGING PROGAM PARTICIPANTS

Hamza M. Abdul-Karim (West Virginia University)

Mentor: Rebecca M. Sappington, PhD

Biochemistry

"Ocular Disease Markers in Non-Human Primates"

Olivia L. Granger (Gardner-Webb University)

Mentor: David R. Soto-Pantoja, PhD

Cancer Biology

"Overcoming Cancer Therapy-Related Toxicities"

Lenora Paige Ingram (Towson University)

Mentor: Dhanendra Tomar, PhD, MSc / Shatakshi Shukla, MSc

Cardiology

"Mitochondrial Protein Lactylation and its Role in Alzheimer's Disease"

Gianpiero Lara (Embry-Riddle Aeronautical University)

Mentor: Elliott Arroyo, PhD

Health and Exercise Science

"Bioelectrical Impedance Vector Analysis of Interdialytic Intervals"

Dominique Liautaud (University of Connecticut)

Mentor: Yashashwi Pokharel, MD, MSCR

Cardiology

"Health System Key Players' Perspective in Implementing a Team-Based Telehealth Hypertension Program"

Elizabeth G. VanLoon (University of Minnesota Duluth)

Mentor: Christina E. Hugenschmidt, PhD

Gerontology

"Lifetime Dance Experience as a Predictor of Functional Mobility in Older Adults"

Summer Program Directors and Staff:

Tina E. Brinkley, PhD ⁽²⁾

Debra I. Diz, PhD ^(1,2)

TanYa M. Gwathmey, MS, PhD ^(1,2,3)

Jill Keith, PhD (WSSU) ^(1,2)

Gary D. Miller, PhD (WFU) ⁽²⁾

David Soto-Pantoja, PhD ⁽¹⁾

Andrew South, MD, MS ⁽³⁾

Claudia Olivier, PhD ^(1,2,3)

Lydia Durr ^(1,2,3)

(¹Cardiovascular Research Program, ²Aging Research Program, ³TRAC Program)



TRAC weekly meetings

Program Support Partners for TRAC:

Wake Forest University School of Medicine

Department of Pediatrics
Medical Student Research Program
COACH Catalyst© (Andrew South)

National Institutes of Health

The Eunice Kennedy Shriver National Institute of Health and
Human Development (R25HD111367)



*Weekly professional development sessions
supplement the research experience.*

TRAC PROGRAM PARTICIPANTS

Alyanis V. Acevedo Serrano, Undergraduate (Cornell University)

Mentor: Stephen M. Downs, MD, MS

Pediatrics

"The Impact of Prior Authorizations and Language Barriers on Timeliness and Outcomes in Pediatric Prescriptions"

Claudia M. Marsello, Undergraduate (SUNY Geneseo)

Mentor: Lauren E. Bradford, MD

Pediatrics: Pulmonary Medicine

"The Effects of Socioeconomic Factors on the Rate of Asthma Exacerbations in Children Utilizing the Child Opportunity Index in a Single Academic Hospital Center from 2020-2024"

Sophie L. B. Paton, Undergraduate (Oberlin College)

Mentor: Ricardo J. Rodriguez, MD

Pediatrics: Neonatology

"Diagnostic Accuracy of Point-of-Care Ultrasound versus Abdominal Radiography in the Evaluation of Necrotizing Enterocolitis in Preterm Neonates: A Retrospective Cohort Study"

Kiersten L. Perkins, Undergraduate (Tuskegee University)

Mentor: Carol L. Vincent MD, MS

Pediatrics: Nephrology

"Standardizing Hypertension Education and Management for Pediatric CKD Through Shared Decision-Making"

Aparna Prasad, MD, Resident (Wake Forest University School of Medicine)

Mentor: Jennifer L. Thompson, MD / Lauren E. Bradford, MD

Pulmonology Clinic / Pediatrics: Pulmonary Medicine *"The Effects of a Combined Pulmonary and Allergy Severe Asthma Clinic on Emergency Department Visits for Asthma Exacerbations"*

Alisha F. Samuels, Undergraduate (Cabarrus College of Health Sciences)

Mentor: Leah A. Chapman, PhD

Neurology: Behavioral

"Informing Pediatric Investigations Through Adult Oncology: Dietary Patterns and the Risk of Cancer Recurrence"

TRAC PROGRAM PARTICIPANTS

Tanvi Sawardekar, Master's Program (Indiana University)

Mentor: Daniel R. Kelly, MD

Pediatrics: Gastroenterology (Charlotte)

"Evaluating School Compliance in Pediatric Patients with Disorders of Gut-Brain Interaction (DGBI) and Avoidant/Restrictive Food Intake Disorder (ARFID)"

Priya Shah, Medical Student (Wake Forest University School of Medicine)

Mentor: Stephanie S. Daniel, PhD

Family Medicine

"First-Time Suicidality in Adolescents: How ED Disposition Relates to Return Visits"

Jessica A. Speckman, Medical Student (Wake Forest University School of Medicine)

Mentor: Kacy A. Ramirez

Pediatrics: Infectious Disease

"Vaccination Status and Delay: Social Influences and Infection Variation in Pediatric Invasive Pneumococcal Disease Cases"

Bethany A. Wilson, Undergraduate (New York University)

Mentor: Parissa J. Ballard, PhD

Family Medicine

"The Lived Experiences of Youth in an Out-of-School Time Program and Reflections on Their Decision Making"

Skyler K. Woods, Undergraduate (North Carolina Agricultural and Technical State University)

Mentor: Erealda Prendaj, MD, FAAP / Elizabeth T. Jensen, PhD

Pediatrics: Gastroenterology / Academic Public Health Science: Epidemiology

"Temporal Relationship Between Psychiatric and GI Diagnoses in Pediatric Patients with IBS and IBD"

DRAELOS SUMMER SCHOLARS PROGRAM

Rasya Kolakaleti (Early College, Guilford Technical Community College)

Mentor: Ashley Weaver, PhD

Biomedical Engineering

"CT Segmentation of Femurs and Vertebrae in Middle-Aged and Older Adults Undergoing Bariatric Surgery"

Program Support Partners for the Cardiovascular and Aging Summer Internship Program:

Wake Forest University School of Medicine

Office of the Dean

Surgery-Hypertension

Hypertension & Vascular Research Center

Cardiovascular Sciences Center

Sticht Center for Healthy Aging and Alzheimer's Prevention

Cancer Biology

Wake Forest University (WFU)

Health & Exercise Science

Graduate School of the Arts & Sciences

Winston-Salem State University (WSSU)

Biomedical Research Institute

Department of Life Sciences

