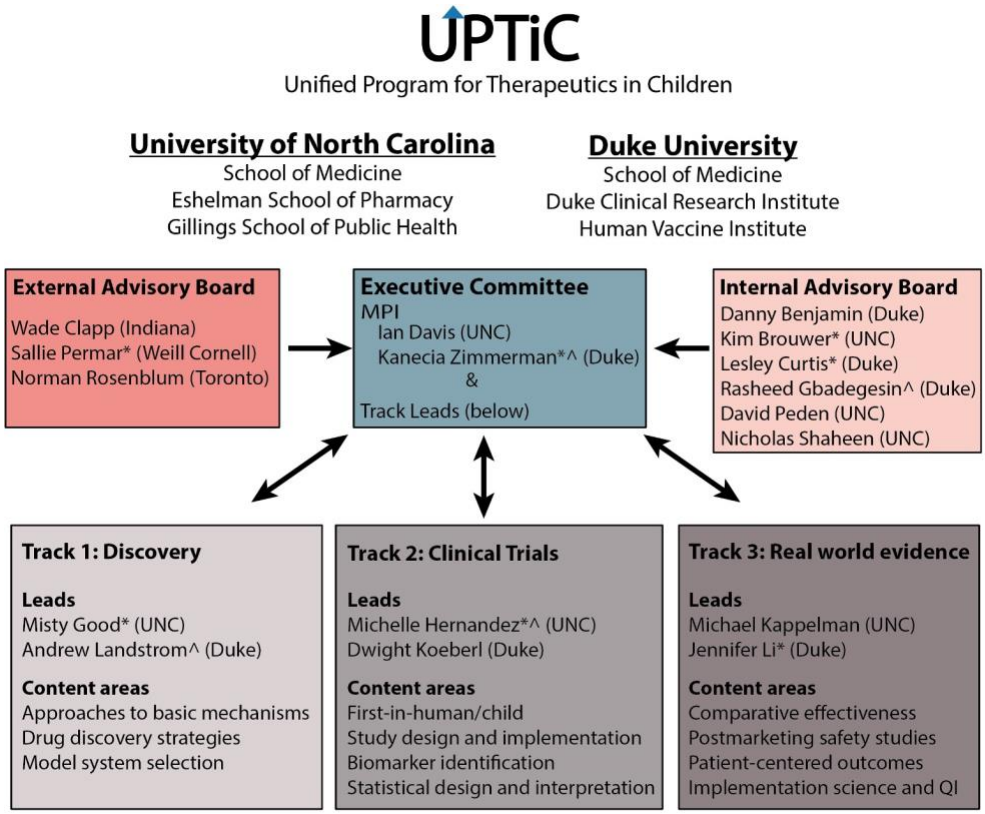
Unified Program for Therapeutics in Children (UPTiC)
2026 Request for Applications
***Applications due March 31, 2026**

The **central mission** of the Unified Program for Therapeutics in Children (**UPTiC**) is to *train pediatrician-scientists to lead the development, implementation and evaluation of novel prophylactics and therapeutics for pediatric populations*. By bringing together the remarkable breadth and strength of basic and clinical sciences at **Duke University** and the **University of North Carolina at Chapel Hill**, we have developed an integrated, pediatric research-focused training program available to all pediatric fellows centered on the fundamentals and practical aspects of research and development of therapeutics for children. Complementary strengths of the individual institutions offer synergy to the research and training missions of this program. This program fosters a fertile environment that spans departments and schools with an exceptionally broad range of training opportunities and mentors across each University, located just 9 miles apart.



UPTiC Training Plan Overview
Key elements of the training plan include:

***Core Didactic Training*:**
1. UPTiC Orientation
2. UPTiC Colloquium (monthly, including didactics, journal clubs and works-in-progress discussions)
3. UPTiC Symposium (annually)
4. Department of Pediatrics Research Forums (Duke and UNC)
5. Opportunity for Advanced Degrees
6. Mandatory Participation in National Meetings
7. Presentation skills training
8. Ethics training and consultation
9. Grant writing skills development

Research Mentorship and Scholarship Oversight
1. Mentor and Research Project Selection
2. Scholarship Oversight Committee (SOC)
3. Individualized Development Plan (IDP)
4. Meetings with Mentor(s), SOC, and UPTiC MPIs for continuing oversight

Candidates

Candidates will be required to have an MD or equivalent degree, be US Citizens or permanent residents, be engaged in pediatric fellowship training at either Duke or UNC, have prior research experience, and be committed to a research-intensive career as an academic pediatrician. Suitable candidates with both MD and PhD degrees (or plans to acquire a PhD) will be provided special consideration. Trainees will be selected for 2 years of support beginning in April 2026,.

**Note, for fellows that may be considering an appointment period of less than 2 years, the NIH payback agreement for all T32 appointees stipulates a criterion that you must fulfill to avoid payback obligations—please reach out to UPTiC contacts below with questions.*

****Please discuss with your fellowship program director, and if you have questions about your eligibility or appointment duration, please reach out to the MPI at your institution (Kanecia Zimmerman at Duke and Ian Davis at UNC).***

Trainees selected for this honor will be designated **Katz-Denny Fellows**, recognizing the immense contribution to child health of Drs. Floyd Denny and Samuel Katz, eminent pediatricians, scientific investigators and former Department Chairs of Pediatrics at UNC and Duke, respectively. Once appointed, Katz-Denny Fellows will have at least 75% protected time for research, will receive funds for research-related expenses and travel to present research at a national meeting in their selected field, as well as time and partial funding for masters degree coursework, as applicable.

Mentors

Candidates are required to identify a mentor or mentors prior to applying. Please review the list of approved mentors (below). If an applicant wishes to work with an alternative mentor(s) not included in the list, you may propose it in your application, and UPTiC leadership will consider the request. Approval will be based upon the mentor's research experience, strength of extramural funding (including NIH funding), enthusiasm/history for mentoring and expertise in one of UPTiC's three didactic/research tracks. If you have questions, please reach out to the MPI from your institution.
****Cross-institutional co-mentorship is encouraged.***

Application Components

NIH Style Biosketch for Applicant

Please provide an NIH Style Biosketch, either using the old format (click here for a blank template) or the new Commons Form which must be prepared in SciENcv (instructions here). Either format should conform to all requirements as specified by NIH for non-fellowship applications. Instructions can be found here.

As part of your Personal Statement in the Biosketch, please include:

a. A description of your research interests and intended research project during the time you would be appointed to UPTiC; please name your primary mentor and describe how they will support you**.**

b. Your background and career goals, including how UPTiC will facilitate the achievement of your career goals and any specific training needs beyond those detailed in the UPTiC Training Plan that you will require to accomplish your goals.

Submit Application

Please email your application as a **pdf,** with the following naming convention: "**applicant last name_UPTiC_2026**" and **copy your primary mentor and fellowship program director** by **March 31, 2026** to:

Duke candidates: PediatricResearch@duke.edu
UNC candidates: Kate Matthews (skmatthe@email.unc.edu)

Interviews with UPTiC Leadership

Applicants may be contacted by UPTiC administration to schedule interviews with UPTiC leadership. These interviews will be considered in the overall evaluation of each application.

Review Criteria

Briefly, selection criteria will include applicant career goals and prior research experience, mentor selection, research objectives, and interviewer feedback if applicable.

UPTiC Mentors

****Note, if an applicant wishes to propose an alternative mentor(s) not included in the list below, UPTiC leadership will consider the request. Approval will be based upon the mentor's research experience, strength of extramural funding, enthusiasm/history for mentoring and expertise in one of UPTiC's three didactic/research tracks.*

Research Track 1: Discovery-based Pediatric Research

Eric Benner, MD, PhD studies the molecular mechanisms of oxysterol-induced oligodendrogenesis in the context of neonatal brain injury and adult demyelinating diseases such as multiple sclerosis, with the intention to translate these oxysterols into a potential therapy for diffuse white matter injury.

Toni Darville, MD, studies the relationship between Chlamydial infection and immune responsiveness in adolescent girls and young women, with important implications for vaccine development.

Ian Davis, MD, PhD uses chromatin-based strategies, genomic approaches and genome-wide computational analytics for fundamental mechanistic studies, small molecule screening and drug discovery, and for the development of novel diagnostics.

Mai Elmallah, MD focuses on the control of breathing, the impact of genetic disorders on respiratory physiology, and novel therapeutics to treat respiratory insufficiency in neuromuscular diseases**.**

Erin Heinzen, Pharm D, PhD, leads a research program focusing on the genetics of neurodevelopmental diseases, which has contributed to the discovery of 15 novel epilepsy genes, and other neurological disorders.

Matthew Hirschey, PhD studies metabolic control, mitochondrial signaling, and cellular processes regulating human health and disease, including diabetes, cardiovascular disease, and cancer, with the goal of exploiting metabolic regulation for its therapeutic potential.**Nancie MacIver, MD, PhD,** studies nutritional immunology and immunometabolism, with attention to how pharmacological modulation of metabolism, nutritional status and nutritionally-regulated hormones affect T cell immunity in the context of health and disease.

Misty Good, MD studies the cellular and molecular mechanisms underlying the pathogenesis of necrotizing enterocolitis as well as signaling pathways that mediate the dysregulated immune response to determine how these responses can be prevented through targeted therapies.

M. Anthony Moody, MD develops new tools to study B cell responses to vaccines and infection, including HIV-1, influenza, and syphilis maintenance and manages a large biorepository at the Duke Human Vaccine Institute of samples for human clinical trials, human observational studies, and non-human primate preclinical studies.

Chengwen Li, PhD, explores novel strategies for development of adeno-associated viral (AAV) vectors with the ability to target human tissues, with a current focus on mitigating the cytotoxic T cells response to AAV vectors and optimizing AAV vectors for hemophilia gene therapy.

Corinne Linardic, MD, PhD uses models of rhabdomyosarcoma to probe the molecular contributions of signature mutations, including oncogenic RAS and PAX3::FOXO1, to the developmental pathways leading to treatment resistance and relapse, with the goal of developing novel cancer therapeutics for children.

Kenneth Pearce, PhD, conducts early drug and chemical probe discovery research, including development of biochemical and cell assays and mechanistic/biophysical studies to approach a wide variety of therapeutic areas including antibacterials, antivirals, metabolic diseases, cancer, inflammatory diseases, and tissue fibrosis.

Barbara Savoldo, MD, PhD developments new vectors, targets, and clinical applications for chimeric tumor-specific T-cell-directed therapeutics (CAR-T cells) and directs the GMP Advanced Cellular Therapies facility that generates modified T-cells for first-in-human and first-in-child use.

Mari Shinohara, PhD studies the basic signaling mechanisms in receptor mediated innate immunity in the context of multiple sclerosis, Alzheimer's disease, and infections, providing an important foundation for therapeutic intervention.

Steve Skapek, MD studies mechanisms that drive rhabdomyosarcoma and how normal developmental programs can be leveraged to develop new therapeutic strategies.

George Truskey, PhD studies the response of cells to physical forces, cardiovascular and skeletal muscle tissue engineering, and microphysiological systems for disease modeling and drug and toxicity testing.

Mark Zylka, PhD, conducts neuroscience research focused on nociception, pain modulation, and autism, including G protein-coupled receptors in nociceptive or itch-sensing neurons, with an overall goal to identify new strategies for therapeutic intervention.

Research Track 2: Clinical Trials and Prospective Cohort Studies

Michael Cohen-Wolkowiez, MD, PhD, is member of the DCRIwith a highly successful career in pediatric clinical trials, clinical pharmacology and drug development, including developing novel clinical trial methods to support feasible studies in children and infants.

Stephanie Davis, MD, studies the pathogenesis of respiratory diseases affecting young children with cystic fibrosis, primary ciliary dyskinesia, and respiratory morbidity associated with preterm birth to develop novel predictive and therapeutic strategies.

Evan Dellon, MD, MPH, focuses on optimizing the diagnosis, characterizing the epidemiology, studying the pathogenesis, and refining the treatment and monitoring of eosinophilic esophagitis and other eosinophilic gastrointestinal disorders, with the overall goal of improving patient care and outcomes.

Rachel Greenberg, MD, MS, MHSCR leads clinical trials and epidemiology studies aimed to improve safety and efficacy of drugs in infants and children.

Michelle Hernandez, MD, studies respiratory and systemic innate immune response in inhalation injury, respiratory immunology and inflammatory lung diseases, including clinical trials of agents to inhibit inflammation to mitigate disease severity and the application of novel therapeutics for difficult-to-control asthma.

Kevin Hill, MD, MS focuses on improving outcomes in children with heart disease with particular interest in early and late phase clinical drug trials.

Christoph Hornik, MD, PhD, MPH develops novel and efficient methods to study health interventions, including pharmaceuticals and risk factor modifications, through traditional prospective multi-center trials, real world databases, and innovative study designs including regulatory grade research registries and direct-to-participant studies.

Corinne Keet, MD, PhD, studies the prevention and treatment of allergic diseases in childhood by leading a large multi-center cohort trial focused on understanding the pathogenesis of food allergy and atopic dermatitis in the first years of life, as well as through leadership of other clinical studies of childhood allergic diseases.

Priya Kishnani, MD, MBBS performs translational and clinical research for the treatment of inborn errors of metabolism, especially lysosomal storage diseases and glycogen storage diseases , including Pompe disease; as Director of the Chen Center for Pediatric Genetics and Genomics she leads efforts to develop new therapies for rare genetic disorders.

Dwight Koeberl, MD, PhD, develops new therapies for glycogen storage diseases using animal models and translates these discoveries into clinical trials; he has used gene therapy to reveal a novel therapeutic target, leading to completion of a Phase I/II study of a β2-agonist drug, clenbuterol, in late-onset Pompe disease.

Prem Laskhmanane, PhD, studies how the immune system responds to viral infections and vaccination, which the goal of reducing public-health impact of infectious diseases. His studies aim to develop diagnostics and personalized approached to improve vaccine effectiveness.

Matt Laughon, MD, MPH, leads research on neonatal epidemiology, pharmaco-epidemiology, and clinical pharmacology and is an expert in the execution of clinical trials of therapeutics in infants with a track record of successful inter-institutional mentorship.

Joseph Muenzer, MD, PhD, is an internationally regarded expert on the diagnosis, management, and clinical treatment of patients with inborn errors of metabolism, especially mucopolysaccharidoses, with extensive expertise in **study design and implementations for clinical trials developing intravenous enzyme replacement therapy.**

Research Track 3: Real World Evidence/Outcomes in Pediatrics

Sarah Armstrong, MD is devoted to improving the treatment of children and adolescents with obesity, particularly those from underserved backgrounds who experience social, ecological, and environmental barriers to health, using quantitative, qualitative, and community-engaged research methods.

Sylvia Becker-Dreps, MD, MPH, studies viral gastroenteritis, Zika virus infection, and the evaluation of vaccine effectiveness in both the US and in low- and middle-income countries.

Scott Commins, MD, PhD, studies the processes that control IgE antibody production and allergic reactions to food, with a special focus on discovering the immunologic mechanisms leading to alpha-gal red meat allergy, as well as its epidemiology, to inform ongoing research in humans to design effective therapies.

Thomas Ferkol, MD, is a pulmonologist with clinical and research interests in defining the genetics, pathogenesis, and clinical manifestations of inherited, suppurative lung diseases, including cystic fibrosis, primary ciliary dyskinesia, and non-cystic fibrosis bronchiectasis, with the goal of informing novel therapeutic development for these pediatric diseases.

Michael Kappelman, MD, MPH is a pediatric gastroenterologist and health services researcher focused on clinical and comparativeness effectiveness research in chronic conditions including Inflammatory Bowel Disease.

Jennifer Li, MD, MHS, focuses on pediatric clinical trials and outcomes studies involving the cardiovascular system, leading efforts in drug development to improve the dosing, safety, and efficacy of

pediatric therapeutics and to develop study methods for pediatric outcomes with unique regulatory experience of translating research findings into medical practice.

Emily O'Brien, PhD is a health services researcher and epidemiologist focused on using real-world data to evaluate comparative effectiveness of commonly used therapies for patient-prioritized outcomes in cardiovascular disease and has expertise in observational studies and pragmatic clinical trials, working with multiple data sources, including linked data from registries, patient self-report, epidemiologic cohorts, electronic health records, and administrative claims.

T. Michael O'Shea, **MD, MPH** leads epidemiologic studies of brain damage and neurodevelopmental outcome in low gestational age newborns and developmental follow up of participants in neonatal clinical trials, as well as tracking environmental exposures in utero and early childhood as an underlying cause of disease in childhood including epilepsy, autism, and ADHD.

Bryce Reeve, PhD, focuses on enhancing patient-reported outcomes in clinical research and improving the quality of care for pediatric and adult cancer patients, including the development of qualitative and quantitative measures and integration of patient-reported outcome data in research, including clinical drug trials, and healthcare delivery.

Matthew Rubach, MD is a global health Medicine-Pediatrics trained infectious disease clinical and epidemiological researcher focused on improving the recognition, diagnosis, and treatment of severe febrile illness in resource-limited tropical settings.

Betsy Sleath, PhD, focuses on provider-patient communication about medications and how this impacts adherence and patient-centered outcomes in childhood and adolescence, recruiting patients from diverse socioeconomic, ethnic, and racial backgrounds into clinical research studies.

P. Brian Smith, MD, MPH, MHS is an expert in clinical trial design, clinical research, and biostatistics, focusing his career on pediatric pharmacology, drug safety, and outcomes research. He is currently PI for the Coordinating Center for the Environmental Influences on Child Health Outcomes.

Til Stürmer, MD, PhD, directs the Center for Pharmacoepidemiology, leads a pharmacoepidemiology training program, is a member of the FDA Drug Safety and Risk Management Advisory Committee, and conducts research on methods of nonexperimental treatment comparisons, including comparative effectiveness.

Kanecia Zimmerman, MD, PhD MPH, focuses on the evaluation of safety and efficacy of therapeutics in vulnerable populations through the conduct of clinical trials and pharmacoepidemiologic studies.