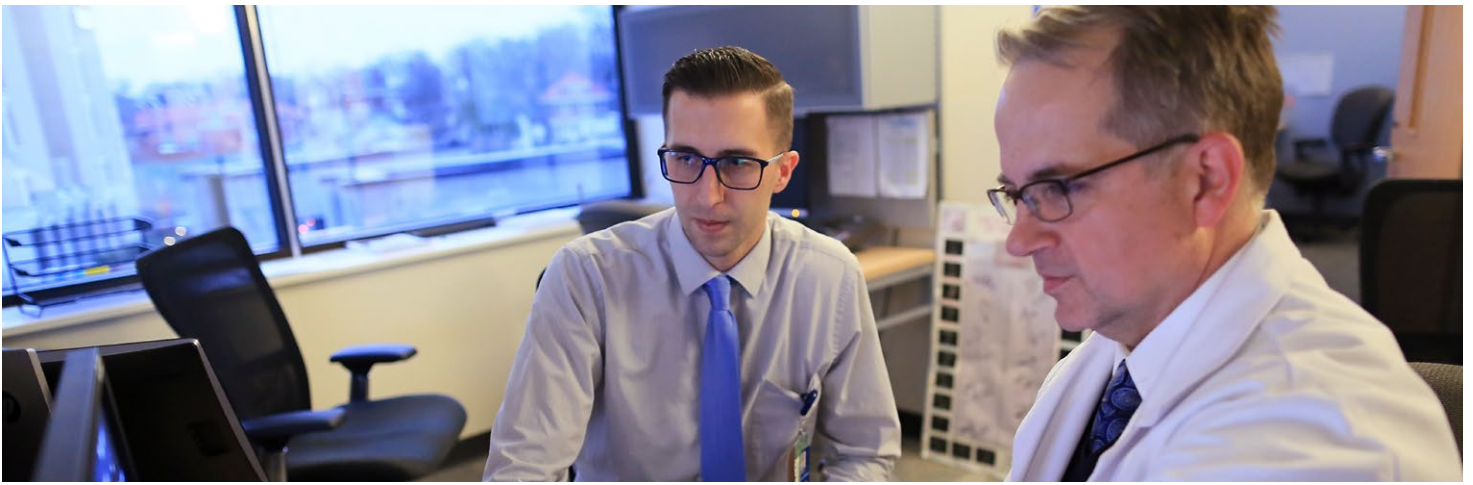




# Advanced Fellowships in Cardiology

The Heart Institute at Cincinnati Children's Hospital Medical Center



The Heart Institute at Cincinnati Children's is pleased to announce GME-approved advanced cardiology fellow training opportunities in the following subspecialties:

Adult Congenital Heart Disease

Center for Acute Care Nephrology

Pulmonary Hypertension

Preventive Cardiology

Cardiac Intensive Care

Non-Invasive Imaging

Cardiovascular Genetics

Advanced Heart Failure and Cardiac Transplantation

Acute Care Cardiology

Electrophysiology

Interventional Cardiology

Our fourth year fellowship training tracks provide intensive experience in the advanced fellow's chosen subspecialty and are intended for the most promising cardiology trainees interested in a career in academic pediatric cardiology.

## Adult Congenital Heart Disease

Director: Nicole Brown, MD | Application Deadline: October 25

Accredited by the ACGME, the 2-year advanced ACHD fellowship at Cincinnati Children's and University of Cincinnati Medical Center is structured to meet the requirements necessary for ABIM board eligibility with the ultimate goal of ACHD certification. This fellowship will add to the knowledge base and experience of an already well-trained pediatric or adult cardiology fellow via individualized pathways and curriculum. Our overall program has been designated as an ACHD Accredited Comprehensive Care Center by the Adult Congenital Heart Association. The ACHD fellow is part of a dedicated team including cardiologists, nurse practitioners, registered nurses, pharmacists and social workers. We work closely with talented colleagues in pediatric and adult general cardiology, cardiothoracic surgery, interventional cardiology, heart failure/transplant, electrophysiology, pulmonary hypertension, cardiac imaging, maternal fetal medicine, and transition medicine to provide the highest quality care to our patients. We hold ACHD clinic nearly every day between our main campus and satellite locations. In addition to our general ACHD clinics and inpatient care, we participate in several multidisciplinary clinics, including pregnancy clinics for high-risk cardiac patients, Cardiovascular Genetics Clinic, and Fontan Management Clinic. Our team and our fellow also participate in many educational activities for trainees, staff, community providers, patients, and families. The ACHD fellow will be expected to perform research with the goal of submission and acceptance of at least one first author original publication aimed to advance the ACHD field. Our goal is to train the next generation of highly skilled ACHD physicians who are capable of managing the full spectrum of pathophysiology within this growing field.

## Center for Acute Care Nephrology

Director: Stuart Goldstein, MD | Application Deadline: January 15

The Center for Acute Care Nephrology (CACN), a collaboration between the Divisions of Nephrology, and Critical Care Medicine and the Heart Institute, offers a Pediatric Acute Care Nephrology Fellowship to prepare clinicians/researchers to better care for patients with acute kidney injury which occurs commonly in critical illness. The 1-2 year fellowship provides specialized training to graduates of pediatric nephrology, critical care or cardiology fellowships. Our overarching goal is to enhance research and clinical collaboration between pediatric nephrologists and pediatric intensive care specialists, a shift that will lead to better outcomes for children with acute kidney injury. Contact Patti Holshouser, Program Coordinator, 513-803-3295 or [patricia.holshouser@cchmc.org](mailto:patricia.holshouser@cchmc.org).

## Pulmonary Hypertension

Director: Russel Hirsch, MD | **Application Deadline: August 30**

The one year advanced fellowship in Pulmonary Hypertension (PH) will expose the trainee to all aspects of Pediatric Pulmonary Hypertension. Accredited by the Pulmonary Hypertension Association (PHA) as a Pulmonary Hypertension Comprehensive Care Center (PHCC), the advanced PH training program will include exposure to both in and out-patients with PH. The training is centered within a collaborative team supported by Nurse Practitioners and a Nurse Coordinator, with further contribution from a dedicated pharmacist and social worker. The advanced fellow will be expected to attend the PH clinic, round daily on PH in-patients, complete consultations and attend PH related cardiac catheterizations. In addition to the basic training within the Heart Institute, the advanced fellow will participate in structured rotations on the Pediatric Pulmonary Service for exposure to chronic lung disease, the Transitional Care Center and the Sleep and Pulmonary Function Laboratories. Additional rotations are also provided off-site at the University of Cincinnati adult PH service and at other partner pediatric institutions. The advanced fellow will be expected to participate in research activities and present findings at national meetings. Prospective trainees will ideally provide outlines of research protocols prior to commencing their training to facilitate timely completion during the year.

## Preventive Cardiology

Director: Elaine Urbina, MD, MS | **Application Deadline: October 25**

Cincinnati Children's Heart Institute has the longest running fourth year fellowship in Preventive cardiology in the United States (since 2006). The fellowship will include structured didactic experiences with plenty of hands-on clinical time in the diagnosis and management of cardiovascular risk factors including obesity, dyslipidemia, hypertension and insulin resistance. Opportunities for additional training in epidemiology, study design and statistics will be available. The advanced trainee is expected to participate in research with the goal of at least one abstract and manuscript resulting from the experience. Fellows will have their choice of participating in a variety of research venues including drug and/or lifestyle interventions in obesity, hypertension and lipid disorders, echocardiography and MRI for assessment of the cardiac consequences of cardiovascular risk factors and non-invasive imaging of vascular structure and function for evaluation of atherosclerosis. Optional areas for study can be introduced to tailor the experience to the areas of interest of the fellow.

## Cardiac Intensive Care

Director: David S. Cooper MD, MPH | **Application Deadline: October 25**

Advanced training in Cardiac Intensive Care is designed for the individual who plans to focus on the management of critically ill children with acquired or congenital heart disease. The successful candidate will have completed an accredited three-year training program in pediatric cardiology or pediatric critical care and should demonstrate initiative and ability for a career in academic cardiac intensive care. The goal of the advanced fellowship is to provide the trainee with cardiology and critical care skills to evaluate and manage critically ill cardiac patients as the primary physician. The understanding of complex cardiovascular and respiratory physiology is fundamental to the achievement of this goal. The trainee will also receive training in the basic principles of critical care including airway management, mechanical ventilation, hemodynamic support (both pharmacologic and mechanical), surgical issues, anesthesia and analgesia, sedation, fluid management, resuscitation and nutrition as applied specifically to the care of patients with critical cardiac illness. The trainee will gain experience in the evaluation and management of routine arrhythmias encountered in the pediatric cardiac intensive care unit and will develop advanced skills managing patients on ECMO and ventricular assist devices. Although the advanced Cardiac Intensive Care fellowship is predominantly clinical, fourth year fellows will be expected to perform clinical research with the goal of submission and acceptance of at least one first author original publication. In addition, the trainee will have exposure to international quality improvement collaborative networks such as the Pediatric Cardiac Critical Care Consortium (PC<sup>4</sup>) and Cardiac Networks United.

*"The advanced fellowship at Cincinnati Children's Hospital provides comprehensive education and exposure in all aspects of pediatric heart transplantation, heart failure and cardiomyopathy. Fellows are part of a large inter-disciplinary team of dedicated cardiologists, surgeons, nurse practitioners, pharmacists, nurses, dietitians, and social workers, all of whom work closely together to take care of the most complex children within cardiology.*

*At this extremely busy clinical center, advanced fellows will be immersed in both the inpatient and outpatient care on a daily basis, learning how to thoughtfully evaluate patients for transplant, take organ donor call, and closely manage patients following transplant.*

*The program's in-depth experience with different types of mechanical circulatory support, including temporary, durable continuous flow and pulsatile devices is second-to-none, opportunities for research are tailored to individual interests, and funding to attend meetings is available to Advanced Fellows."*

— Dr. Nikki Singh

*Advanced Fellow in  
Cardiomyopathy,  
Heart Failure,  
and Transplant*

*“The advanced fellowship in Preventive Cardiology at Cincinnati Children’s is an amazing place to train in diagnosing and managing dyslipidemia & hypertension. It is one of the few places in the nation to offer an advanced fellowship in Preventive Cardiology, and I highly recommend it without reservations. There are numerous opportunities for research, especially in non-invasive methods of assessing vascular health, and there is a wealth of research support through the Heart Institute Research Core. However, what I have appreciated the most and will always remember going forward is the incredible mentorship and team here at Children’s.”*

— Dr. Andrew Tran

*(Advanced Fellow in Preventive Cardiology)*

## Non-Invasive Imaging

Co-Directors, Non-Invasive Imaging Program: Garick Hill, MD, Allison Divanovic, MD & Sean Lang, MD | **Application Deadline: August 30**

The fourth year fellowship in Non-invasive Imaging seeks to train future leaders in the field. The fellowship provides advanced training in all facets of cardiovascular imaging including transthoracic and transesophageal echocardiography, fetal echocardiography, computed tomography and magnetic resonance imaging. During the course of the program, the trainee will also participate in fetal counseling and management planning in a wide variety of clinical situations, including fetal therapeutic procedures. The advanced imaging curriculum can be tailored to an applicant’s needs and include more or less emphasis on any of these modalities as well as training in small animal echocardiography. The fellow’s role will progress over the year with an initial focus on mastering echocardiography skills and acquiring fetal and cross sectional imaging skills. The fellow will become a teacher to the categorical fellows and will ultimately assume a pre-attending role. Academic skills will also be heavily emphasized, with the expectation of at least one research or quality improvement abstract and manuscript during the year. To facilitate this goal, the fellow will have access to the resources of the Heart Institute Research Core, the Cardiovascular Imaging Core Research Laboratory, and the James M. Anderson Center for Health Systems Excellence.

## Cardiovascular Genetics

Director: Nicole Brown, MD | **Application Deadline: August 30**

The Heart Institute offers one of the very few advanced Cardiovascular Genetics fellowships in the United States. The fourth year fellowship provides protected time to pursue patient-oriented translational research using human genetics and molecular developmental approaches, and therefore is primarily a research fellowship designed for candidates interested in becoming physician scientists with independent research programs. Cincinnati Children’s has a variety of important cores for leveraging state of the art approaches to large-scale high-throughput genetics research with exceptional biomedical informatics support. The Heart Institute Diagnostic Laboratory (HIDL) provides a wide range of clinical testing and reporting services complemented by regular HIDL reporting conferences and didactic offerings. In addition to research experience, the fellowship provides a unique opportunity for advanced training in clinical cardiovascular genetics. The candidate will participate in a dedicated cardiovascular genetics service that combines the expertise of cardiologists, human geneticists and genetic counselors to provide coordinated comprehensive care for children with genetic syndromes and cardiovascular disease. Cardiovascular Genetics partners with numerous programs within the Heart Institute, including Adult Congenital Heart Disease, Heart Failure/Cardiomyopathy/Transplant, Fetal Cardiology, Electrophysiology and Neurodevelopmental Cardiology, and can thus provide the advanced trainee with exposure to the complete spectrum of cardiovascular genetics. The Cardiovascular Genetics fellowship does not accept applicants every year. Please contact [joyce.eiben@cchmc.org](mailto:joyce.eiben@cchmc.org) before applying.



Established in 1883, we comprise the Department of Pediatrics of the University of Cincinnati College of Medicine. We have 700 registered beds, including 110 inpatient behavioral-health beds and 30 residential behavioral-health beds. In addition, we provide more than 1.4 million square feet of research laboratory space to investigators working to improve child health.

## Advanced Heart Failure and Cardiac Transplantation

Director: Clifford Chin, MD | **Application Deadline: August 30**

The fourth year fellowship provides an advanced experience for the trainee in all aspects of pediatric heart failure, cardiomyopathy, and pediatric cardiac transplantation. Applicants will receive extensive training in both inpatient and outpatient care while receiving valuable mentoring from staff recognized as world-leaders in these areas. Upon completion, graduates will be familiar with all aspects of advanced heart failure therapy including ventricular assist devices and transplantation. Training in the evaluation of patients with a family history of cardiomyopathy will occur in the outpatient setting and includes education on the use of genetic testing to determine at-risk family members. Extensive clinical and translational research opportunities are available and will be tailored to the trainee's area of interest. The advanced fellow will be expected to develop a research project under the direction of the Cardiomyopathy & Advanced Heart Failure Service with the plan to present at least one abstract during the year of training and to develop a manuscript for peer-review submission by the completion of their fellowship.

## Acute Care Cardiology

Director: Nicolas Madsen, MD, MPH | **Application Deadline: October 25**

Advanced training in Acute Care Cardiology (also known as inpatient or step-down care) is designed for the individual who plans to become a leader in the field of acute care cardiology. Clinical care includes all hospitalized, non-ICU, children with acquired or congenital heart disease. The successful candidate will have completed an accredited three-year training program in pediatric cardiology and should demonstrate an interest for a career in academic medicine. The clinical goal of the advanced fellowship is to provide the trainee with the cardiology training to evaluate and manage acutely ill cardiac patients, as well as to develop the leadership skills necessary to direct a multidisciplinary team. The understanding and integration of complex cardiovascular and respiratory physiology is fundamental to the achievement of this goal. The basic principles of acute care education include respiratory management, chronic hemodynamic support (both pharmacologic and mechanical), surgical issues, analgesia, fluid management, escalation of care, and nutrition. The trainee will gain experience in the evaluation and management of routine arrhythmias, cardiac catheterization data, and management of ventricular assist devices.

The trainee will also have the opportunity to receive formal training in Quality Improvement methodologies, expanded opportunities in Medical Education, and exposure to operational leadership of a hospital unit including partnership with Patient Services leadership. Furthermore, the trainee will have exposure to international collaborative networks such as the Pediatric Acute Care Cardiology Collaborative (PAC3) and Cardiac Networks United. While the focus of the advanced Acute Care Cardiology fellowship is predominantly clinical, fourth year fellows will be expected to perform scholarly work with the goal of submission and acceptance of at least one first author original publication, as well as participation in international conferences.

## Electrophysiology

Director: Timothy Knillans, MD | **Application Deadline: August 30**

The fourth year fellowship training in pediatric electrophysiology provides an advanced experience in diagnostic electrophysiology, invasive electrophysiologic testing including transvenous and esophageal studies, advanced non-invasive electrophysiologic studies, ablation procedures, transvenous and epicardial pacemaker insertion and management and evaluation of familial arrhythmias. The trainee will participate in outpatient electrophysiology clinics and inpatient consultations. The advanced fellow will also participate in research with the goal of at least one first author publication in a peer reviewed journal. The ultimate purpose of the advanced fellow experience is to provide the skills and knowledge necessary for a successful clinical, academic and research career in pediatric cardiac electrophysiology.

*"After I finished my pediatric Critical Care Fellowship, I knew that I wanted my career to be built in the Cardiac ICU and needed additional training specifically in cardiology. The Advanced Fellowship program at Cincinnati Children's gave me the opportunity to rotate through the cath lab, electrophysiology, and echocardiography departments.*

*While in the Cardiac ICU, I took care of patients with a wide array of congenital heart defects with complex cardiovascular and respiratory physiology and had great exposure taking care of cardiomyopathy, heart failure and transplant patients. I worked alongside intensivists, cardiologists, and surgeons who are at the top of the cardiology field.*

*The experience that I have gained in the past year has given me an incredible foundation to be successful in the cardiac ICU."*

— Dr. Lee Murphy

*(Advanced Fellow in Cardiovascular Intensive Care)*



*“My training experience so far at CCHMC in the cardiac catheterization laboratory has been very positive. The large patient volume that the Heart Institute cares for has guaranteed that I have been involved in a great number of cases as well as experienced a wide variety of different procedure types and patient complexities. The cardiac cath team work closely with other members of the Heart Institute and I have enjoyed observing and learning more about the team approach to patient management and decision making from my seniors. I have also had the opportunity to advance my research portfolio and have become involved in several projects whilst here.”*

— Dr. Eimear McGovern  
*(Advanced Fellow in  
Interventional Cardiology)*

## Interventional Cardiology

Director: Russel Hirsch, MD | **Application Deadline: August 30**

During the course of the one year fellowship program, the trainee will learn to perform catheterization in a wide variety of clinical situations involving patients with both congenital and acquired heart disease. This will include diagnostic, interventional and hybrid catheterization procedures. In addition to the technical skill component, the trainee will also learn hemodynamic data interpretation and analysis of angiography relevant to the cardiovascular system. The trainee is expected to participate in and be productive from a clinical research perspective. Prospective trainees will be requested to provide outlines of potential research projects prior to entering the program to expedite completion of the research during the course of the year. It is expected that the trainee will present findings of research in abstract form at a national meeting and will submit a manuscript for publication in a peer reviewed journal.

## Additional resources and opportunities:

### Heart Institute Research Core

Research performed by advanced fellows will be supported by the Heart Institute Research Core (HIRC), a research unit that supports innovative clinical and translational science by facilitating the design and implementation of research studies, the dissemination and application of findings, and the development of research professionals. Project managers, in collaboration with principal investigators, lead customized project teams selected from a cadre of more than 40 research professionals, including project managers, clinical research coordinators, research nurses, biostatisticians, business and administrative personnel, and experts in biomedical informatics and data management, to accomplish the specific goals of each research project.

### M.S. in Clinical and Translational Research

The Master of Science degree program in Clinical and Translational Research is designed to provide clinical professionals with the necessary preparation for successful career development and independent investigator awards. The program emphasizes specific training in clinical epidemiology/clinical effectiveness, molecular epidemiology, clinical trials, and translational research that will enable clinicians to translate scientific advances into applications for improved clinical practice and human health. The M.S. in Clinical and Translational Research is a 48 credit hour program to be completed in two years on a part-time basis to allow trainees to meet clinical duties and other responsibilities while enrolled in classes. In addition to the successful completion of 45 credit hours of course work at the University of Cincinnati, a thesis and three credits of thesis research are required. It is anticipated that most graduates of the program will ultimately hold positions as clinician-investigators in academic settings and will develop into independently-funded clinical researchers. Since this is a two-year program, the advanced fellow who wishes to pursue this degree needs to plan on an additional year of training and enrollment arrangements/prerequisites must be discussed prior to beginning the fourth year.

## About The Heart Institute

The Heart Institute at Cincinnati Children's Hospital Medical Center was formed in 2008 with the mission to transform pediatric heart disease through the integration of clinical care, molecular cardiovascular research and education.

In fiscal year 2018, the Heart Institute received patient referrals from 46 states and 17 countries, and treated over 17,000 patients.



## About Cincinnati Children's Hospital Medical Center

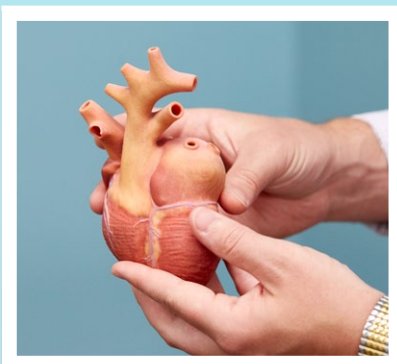
Cincinnati Children's Hospital Medical Center ranks **second in the nation** among all Honor Roll hospitals in *U.S. News & World Report's* 2018-19 Best Children's Hospitals ranking.

We are also in the top 10 of all pediatric specialties ranked by *U.S. News*, including in cardiology and heart surgery.

### 2018-2019 Rankings

- No. 1** Cancer
- No. 1** Gastroenterology and GI Surgery
- No. 2** Neurology and Neurosurgery
- No. 2** Urology
- No. 2** Nephrology
- No. 3** Pulmonology and Lung Surgery
- No. 3** Diabetes and Endocrinology
- No. 4** Orthopaedics
- No. 5** Neonatology
- No. 8** Cardiology and Heart Surgery

The Department of Pediatrics at Cincinnati Children's, affiliated with the University of Cincinnati College of Medicine, trains approximately 155 residents in six programs each year, and offers more than 25 fellowship/post-doctoral training programs, making our pediatric training program one of the largest and most specialized in the United States.



Additionally, Cincinnati Children's Research Foundation is one of the largest pediatric research programs in the nation, and the second highest recipient of NIH grants pediatric research.

Past milestones for Cincinnati Children's includes the Sabin oral polio vaccine, the first practical heart-lung machine and the discovery of key ingredients of the surfactant preparation.

## About Cincinnati

The Cincinnati metropolitan area has a population of 2.1 million people and boasts professional baseball (the Reds), football (the Bengals), and soccer (FC Cincinnati) teams. The city is also home to world-class arts, including museums, professional ballet, opera, symphony and theatre, as well the largest Oktoberfest outside of Munich.

Cincinnati is a friendly, family-oriented city with affordable housing in nice neighborhoods without a long commute.

In 2018, *U.S. News* ranked Cincinnati among the top 50 of "100 Best Places to Live in the USA." Cincinnati also ranks on these top ten:

- No. 5 "America's Most Affordable Cities" (*Forbes*, 2015)
- No. 9 "Best Cities for Raising a Family" (*Forbes*, 2016)



## Application

Our advanced fellowship program is designed for highly qualified and motivated fellows in pursuit of the skills, knowledge and experience necessary for a successful academic career. For application information, please visit [www.cincinnatichildrens.org/advanced-cardiology-fellowship](http://www.cincinnatichildrens.org/advanced-cardiology-fellowship).

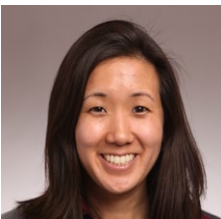
## Contact Us

Fellowship program director, Ivan Wilmot, MD, and associate program director, Eunice Hahn, MD, provide oversight and leadership of the clinical and scholarly aspects of the training program. They are dedicated to providing a rewarding and challenging experience to every fellow who joins the team.



### **Ivan Wilmot, MD**

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### **Eunice Hahn, MD**

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For questions regarding the application process, please contact:

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