

#### Co-Directors

Charles I. Berul, M.D. Yves d'Udekem, M.D., Ph.D. Ricardo Munoz, M.D.

Chief, Division of Cardiology Charles L Berul, M.D.

Chief, Cardiovascular Surgery Yves d'Udekem, M.D., Ph.D.

Chief, Cardiac Critical Care Medicine Ricardo Munoz, M.D.

Director, Cardiac Anesthesia Andrew Wabserski, M.D.

#### Cardiologists

Annette Ansong, M.D. Jeffrey A. Becker, M.D. Natalie Behrle, M.D. John T. Berger, M.D. Charles I. Berul, M.D. Kristin M. Burns, M.D. Sarah B. Clauss, M.D. Susan D. Cummings, M.D., M.P.H. Shri Deshpande, M.B.B.S., M.S. Niti Dham, M.D. Mary T. Donofrio, M.D. Robin W. Doroshow, M.D. Tacy Downing, M.D. Mary Falterman, M.D. David Finkelstein, M.D. Lowell H. Frank, M.D. Suma Goudar, M.D. Ashraf S. Harahsheh, M.D. Seiji Ito, M.D. Anitha S. John, M.D., Ph.D. Jonathan R. Kaltman, M.D. Joshua P. Kanter, M.D. Sairah Khan, M.D. Jennifer Klein, M.D., M.P.H. Anita N. Krishnan, M.D. Stephanie Lacey, D.O. Linda Leatherbury, M.D. Yue-Hin Loke, M.D. Gerard R. Martin, M.D. Michele Mietus-Snyder, M.D. Jeffrey P. Moak, M.D. Jai K. Nahar, M.D. Craig A. Sable, M.D. Elizabeth Sherwin, M.D. Christopher F. Spurney, M.D. Uyen Truong, M.D. Michelle Udine, M.D. Ravi Vegulla, M.B.B.S. Gilbert Wernovsky, M.D.

#### **Cardiac Surgeons**

Yves d'Udekem, M.D., Ph.D. Manan Desai, M.D. Aybala Tongut, M.D. Can Yerebakan, M.D.

# **Nursing Leadership**

Director, Inpatient Nursing Shaun Christopher Frame, MS, RN, PED-BC, CCRN-K, NEA-BC Clinical Manager, Outpatient Nursing Kristi Mehrtens, BSN, MS, RN, CPN

**Pediatric Cardiology Fellowship Training Program Children's National Hospital** 

Program Director: Lowell Frank, M.D.

Ifrank@childrensnational.org

Associate Program Director: Christopher Spurney, M.D.

cspurney@childrensnational.org

Program Coordinator: Deleon Mitchell dmitchell@childrensnational.org

Phone: 202-476-2020 | Fax: 202-476-5700

http://www.childrensnational.org/cardiology-fellowship

#### **Program Overview**

The Pediatric Cardiology Fellowship at Children's National is an ACGME-accredited program committed to the training of outstanding physicians dedicated to the care of patients with pediatric cardiovascular disease. During the program, fellows develop skills in clinical care, research, and teaching over a 36-month period. Fellows benefit from the vast expertise of and dedicated teaching by faculty from the Division of Cardiology as well as the other programs within the Children's National Heart Institute.

The CNHI is a multidisciplinary team comprising Cardiology, Cardiovascular Surgery, Cardiac Intensive Care, and Cardiac Anesthesia. It is a national and international referral center and is the largest congenital heart program in the mid-Atlantic region. Our diverse patient population offers a robust clinical experience in all facets of pediatric cardiology. Our research benefits from the resources of Children's National including the Children's Research Institute, the Sheikh Zayed Institute for Pediatric Surgical Innovation, the Children's National Global Health Initiative, the Child Health Advocacy Institute, and the Clinical and Translational Science Institute, a partnership with George Washington University. We maintain strong collaborations with the National Institutes of Health's National Heart, Lung, and Blood Institute and Washington Hospital Center. Children's National is also a member of the **Pediatric Heart Network**.

## **Fellowship Curriculum**

An approximate breakdown of the fellowship schedule is shown below:

#### Weeks of Training

	Year One	Year Two	Year Three	Total
Research	6	23	23	52
CICU	4	6	4	14
Inpatient*	5	4	2	15
Consults*	4	4	2	15
Imaging	8	4	6	18
EP	6	2	4	12
Cath	8	4	4	16
Subspecialty	2	2	2	6
Nights	5	4	4	13
Vacation	4	4	4	12

#### **Clinical Rotations**

Clinical rotations include:

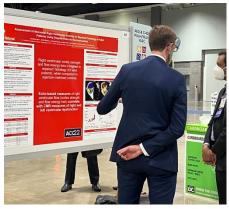
- Cardiology Inpatient Service (Heart and Kidney Unit (HKU))
- Inpatient Consultation Service
- Cardiac Intensive Care Unit (CICU)
- Imaging (Echo, fetal cardiology, MRI, CT)
- Cardiac Catheterization
- Electrophysiology
- Subspecialty: Adult Congenital Heart Disease; Heart Failure and Transplant; and Pulmonary Hypertension

Fellows participate in outpatient continuity clinic for one half day per week during their first year and for one full day every other week during their second and third years. Training during the third year includes a "pre-attending" on-service experience, a community cardiology call experience, and elective experiences to tailor the year to meet individual training goals.

On call responsibilities for the cardiology fellowship are performed predominantly through a night float system, which allows for continuity of care without sacrificing time from clinical and research duties. Monday night through Saturday night coverage is provided by an in-house cardiology fellow. Saturday day shift and Sundays are covered by an additional fellow, allowing for continuity of care over the weekend. Sunday overnight call may be performed at home if the clinical service allows. Call responsibilities include coverage of cardiology service and consult patients, new consults throughout the hospital and in the Emergency Department, parent phone calls, and assisting in the Cardiac Intensive Care Unit as needed. On call fellows also spend time performing echocardiograms and participating in cardiac catheterizations and electrophysiology procedures as they arise. Fellows are on call for approximately four weeks of night float and four additional weekends per year.

<u>Cardiac Intensive Care Unit call</u> is scheduled through a separate night float system integrated into the rotation. Each fellow also performs a very limited number of additional cross-cover CICU calls per year. CICU call responsibilities include the primary care of all Cardiac Intensive Care Unit patients.

The cardiology fellowship program is supportive of and compliant with all ACGME duty hour standards.



#### Research Time

Approximately 12 of the 36 months of training are dedicated to research, mostly divided between the second and third years. Opportunities for clinical and basic science research are available with Children's National faculty in Cardiology and other divisions as well as at the Children's Research Institute, the Sheikh Zayed Institute for Pediatric Surgical Innovation, Washington Hospital Center, George Washington University, Georgetown University, and the National Institutes of Health. Fellows are supported to present their research at national meetings and for publication in peer-reviewed journals.

In 2010, Children's National was awarded the prestigious Clinical and Translational Science Award (CTSA) grant from the National Center for Advancing Translational Sciences (NCATS) to establish the <u>Clinical and Translational Science Institute at Children's National</u> (CTSI-CN). This was the first such funding awarded directly to a freestanding children's hospital. Fellows benefit from statistical support for their projects through this grant. In 2020, Children's National opened its <u>Research and Innovation Campus</u> on the site of the <u>historic</u> former Walter Reed Army Medical

Center, including the new <u>JLABS collaboration</u> with <u>Johnson & Johnson</u>.

#### **Fellow Research**

Our fellows have been extremely successful in their academic endeavors during their training. They routinely publish manuscripts in peer-reviewed journals and present their work at national meetings. Highlights of our fellows' recent academic accomplishments during their time in training are shown below:

#### Class of 2024

#### **Publications**

**McLean K**, Downing T, Sinha P, Ito S. Palliating the Unpalliated Adult Single Ventricle Patient - Options and Review of Literature. *International Journal of Cardiology Congenital Heart Disease* 2023.

Bond RM, Phillips K, Ivy KN, **Ogueri V**, Parapid B, Miller SC, Ansong A. Cardiovascular Health of Black Women Before, During, and After Pregnancy: A Call to Action and Implications for Prevention. *Current Cardiovascular Risk Reports* 2022.

Ezeoke OM, Williams J, **Ogueri V**, Hills BK. The Heart of the Matter: A Path to Building Diversity in Pediatric Cardiology. *Pediatric cardiology* 2023.

Salameh S, **Ogueri V**, Posnack NG. Adapting to a new Environment: Postnatal Maturation of the Human Cardiomyocyte. *Journal of Physiology* 2022.

#### **Presentations**

#### Kelsey Brown:

Utilizing Automated Machine Learning for Rheumatic Heart Disease Detection by Doppler Echocardiography. Oral presentation at the World Congress of Cardiology; Rio de Janeiro, Brazil, 2022

Field Deployment of Artificial Intelligence for Detection Of Rheumatic Heart Disease By Echocardiography. Oral and poster presentations at the 8<sup>th</sup> World Congress of Pediatric Cardiology and Cardiac Surgery; Washington, DC, 2023

Response To WHO Resolution - Perspectives from Global Experts and Dragons Den - Research Proposals. Oral presentation at the 8<sup>th</sup> World Congress of Pediatric Cardiology and Cardiac Surgery; Washington, DC, 2023

## Kelsey McLean:

Hybrid Stage I Palliation Stent Comparison. Poster presentation at Society of Cardiovascular Angiography and Interventions; Istanbul, Turkey, 2023

# Vanessa Ogueri:

Case presentation: Balanced AVSD. Oral presentation at the 8<sup>th</sup> World Congress of Pediatric Cardiology and Cardiac Surgery; Washington, DC, 2023

Congenitally Corrected TGA: From Fetus to Adulthood, Which Way Do We Go? Oral presentation at ACC Scientific Session; Washington, DC, 2022

# Christine Sawda:

Adult Type Anomalous Left Coronary Artery from The Pulmonary Artery - Finding An Elusive Coronary. Poster presentation at the 8<sup>th</sup> World Congress of Pediatric Cardiology and Cardiac Surgery; Washington, DC, 2023

Correlation Of Right Ventricular Outflow Tract Residual Disease on Post-op Transesophageal Echocardiography and Discharge Transthoracic Echocardiography After Tetralogy Of Fallot Repair. Poster presentation at the 8<sup>th</sup> World Congress of Pediatric Cardiology and Cardiac Surgery; Washington, DC, 2023. Poster presentation at the 34<sup>th</sup> American Society of Echocardiography Scientific Sessions; National Harbor, MD, 2023

#### **Awards**

#### Kelsey Brown:

Best Oral Abstract, World Congress of Cardiology, Rio de Janeiro, Brazil

## Class of 2023

#### **Publications**

**Hong J**, Litt SJ, Moak JP. Cardiac arrhythmias in postural tachycardia syndrome and orthostatic intolerance. *Cardiol Young* 2022.

**Kollar S**, Balaras E, Olivieri LJ, Loke YH, Capuano F. Statistical shape modeling reveals the link between right ventricular shape, hemodynamic force, and myocardial function in repaired Tetralogy of Fallot patients. *Am J Physiol Heart Circ Physiol* 2022.

**Kollar SE**, Udine ML, Mandell JG, Cross RR, Loke YH, Olivieri LJ. Impact of ferumoxytol vs gadolinium on 4D flow cardiovascular magnetic resonance measurements in small children with congenital heart disease. *Journal of Cardiovascular Magnetic Resonance*, 2022.

Loke YH, Capuano F, **Kollar S**, Cibis M, Kitslaar P, Balaras E, Reiber JHC, Pedrizzetti G, Olivieri L. Abnormal Diastolic Hemodynamic Forces: A Link Between Right Ventricular Wall Motion, Intracardiac Flow, and Pulmonary Regurgitation in Repaired Tetralogy of Fallot. *Front Cardiovasc Med*, 2022.

Misra P. The First Step. JAMA Cardiol 2021

Misra P. Everything We Can. Acad Pediatr 2022.

#### **Presentations**

#### Jeff Hong

Cardiac Arrhythmias in Postural Tachycardia Syndrome and Orthostatic Intolerance: Beyond Sinus Tachycardia. Moderated poster presentation at the Heart Rhythm Society; Boston, 2021

Pacing and Defibrillator Lead Longevity Extends Beyond 15-20 Years After Implantation in Pediatric and Congenital Heart Disease Patients. Poster presentation at American College of Cardiology Scientific Sessions; New Orleans, LA, 2023

Cardioneuroablation for Pediatric Patients with Functional Sinus Node Dysfunction and Paroxysmal Atrioventricular Block. Oral presentation at Heart Rhythm; New Orleans, LA, 2023

#### Sarah Kollar:

Improved Accuracy of 4D Flow with Ferumoxytol in comparison to Gadolinium Contrast for Small Children with Congenital Heart Disease. Poster presentation at the American Heart Association Scientific Sessions; Boston, MA, 2021

Segmental Displacement is Related to Right Ventricular Remodeling and Intracardiac Vorticity in Repaired Tetralogy of Fallot Patients. ePoster Presentation at SCMR Virtual Scientific Sessions, 2022

Effect of Pulmonary Valve Replacement on Function and Right Ventricular Volume by Cardiac Magnetic Resonance Imaging in Patients with Repaired Tetralogy of Fallot. Virtual poster presentation at the Pediatric Academic Society Annual Scientific Session; 2019.

# Laura Lowrey:

Influence of BMI in Donor-Recipient Size Mismatch in Pediatric Heart Transplantation. Poster presentation at the American Heart Association Scientific Sessions; Boston, MA, 2021. Poster presentation at the American College of Cardiology Scientific Sessions; Washington, DC, 2022

Influence of BMI in Donor-Recipient Size Mismatch in Pediatric Heart Transplantation. Poster presentation at the American College of Cardiology Scientific Sessions; Washington, DC, 2022

# Priya Misra:

Getting Through the Night: Understanding 'In-the-Moment' Resilience of Pediatric Cardiology Fellows in the Cardiac Intensive Care Unit. Poster presentation at the Pediatric Cardiac Intensive Care Society; Miami, FL, 2022. Poster presentation at Pediatric Academic Societies; Washington, DC, 2023.

#### **Awards**

#### Jeff Hong

Excellence in Medical Student Education 2023

#### Sarah Kollar

Excellence in Medical Student Education 2023

APS SPR Journeys & Frontiers in Pediatric Research Program Award

#### Laura Lowrey

Excellence in Medical Student Education 2023

#### Priya Misra

Excellence in Medical Student Education 2023

## Class of 2022

#### **Publications**

Meyers B, **Nyce J**, Zhang J, Frank LH, Balaras E, Vlachos PP, Loke YH. Intracardiac Flow Analysis of the Right Ventricle in Pediatric Patients With Repaired Tetralogy of Fallot Using a Novel Color Doppler Velocity Reconstruction. *J Am Soc Echocardiogr*, 2023.

**Schwartz B**, Hom L, Von Kohorn I, Becker J, Cuzzi S, Grier-Clarke S, Kiernan S, Martin G. Newborn Pulse Oximetry Screening at a Community Hospital: An 8-year Experience. *Pediatrics* 2021.

**Schwartz BN, Klein JH**, Barbosa MB, Hamersley SL, Hickey KW, Ahmadzia HK, Broth RE, Pinckert TL, Sable CA, Donofrio MT, Krishnan A. Expanding Access to Fetal Telecardiology During the COVID-19 Pandemic. *Telemed J E Health* 2021.

Martin GR, **Schwartz BN**, Hom LA, Donofrio MT. Lessons Learned from Infants with Late Detection of Critical Congenital Heart Disease. *Pediatr Cardiol* 2022.

**Schwartz BN,** Harahsheh AS, Krishnan A, Martin GR. Cardiac Effects of COVID-19 Infection, MIS-C, and the Vaccine in Infants and Children: What Is Known and Future Implications. *Am J Perinatol*, 2022.

**Schwartz BN**, Hom LA, Revenis ME, Martin GR. Rethinking Pulse Oximetry Screening in the Level-IV Neonatal Intensive Care Unit. *Am J Perinatol*, 2022.

#### **Presentations**

#### Marie Carillo:

Global Longitudinal Strain and Longitudinal Early Diastolic Strain Rate May Identify Those Williams Syndrome Patients at Risk of Cardiomyopathy Development. Poster presentation at the American Heart Association Scientific Sessions; Boston, MA, 2021

Supraventricular Tachyarrhythmia as a Harbinger of an Intracardiac Mass. Poster presentation at the American Academy of Pediatrics National Conference; 2020

# Jonathan Nyce:

Assessment of abnormal right ventricular vorticity in repaired Tetralogy of Fallot patients using Doppler velocity reconstruction (DOVER). Poster presentation at the American College of Cardiology Scientific Sessions; Washington, DC, 2022.

## Bryanna Schwartz:

The Impact of Newborn Pulse Oximetry Screening at a Community Hospital: An Eight-Year Experience. Oral presentation at the American College of Cardiology 70th Annual Scientific Sessions; Atlanta, Georgia, 2021

## Class of 2021

#### **Publications**

**Curren V**, Dham N, Spurney C. Diagnosis, Prevention, Treatment and Surveillance of Anthracycline-Induced Cardiovascular Toxicity in Pediatric Cancer Survivors. *Hearts* 2021.

Klein J, Donofrio MT. Fetal Echocardiography for the General Pediatrician. Pediatr Ann 2021.

**Klein JH**, Beaton A, Tompsett A, Wiggs J, Sable C. Effect of anaemia on the diagnosis of rheumatic heart disease using World Heart Federation criteria. *Cardiol Young* 2019.

de Loizaga SR, Arthur L, Arya B, Beckman B, Belay W, Brokamp C, Hyun Choi N, Connolly S, Dasgupta S, Dibert T, Dryer MM, Gokanapudy Hahn LR, Greene EA, Kernizan D, Khalid O, **Klein J**, Kobayashi R, Lahiri S, Lorenzoni RP, Otero Luna A, Marshall J, Millette T, Moore L, Muhamed B, Murali M, Parikh K, Sanyahumbi A, Shakti D, Stein E, Shah S, Wilkins H, Windom M, Wirth S, Zimmerman M, Beck AF, Ollberding N, Sable C, Beaton A. Rheumatic Heart Disease in the United States: Forgotten But Not Gone: Results of a 10 Year Multicenter Review. *J Am Heart Assoc* 2021.

Scheel A, Ssinabulya I, Aliku T, Bradley-Hewitt T, Clauss A, Clauss S, Crawford L, DeWyer A, Donofrio MT, Jacobs M, **Klein J**, Moore TE, Okello E, Scheel J, Shaw R, Sable C, Lwabi P, Watkins DA, Beaton A. Community study to uncover the full spectrum of rheumatic heart disease in Uganda. *Heart* 2019.

**Ralston BH**, Willett R, Namperumal S, et al. Use of Virtual Reality for Pediatric Cardiac Critical Care Simulation. *Cureus* 2021.

**Schramm J**, Sivalingam S, Moreno GE, Thanh DQL, Gauvreau K, Doherty-Schmeck K, Jenkins KJ. Pulmonary Vein Stenosis: A Rare Disease with a Global Reach. *Children* 2021.

**Schramm J**, Ito S, Frank LH, Spurney CF. Acute Chest Pain in Duchenne Muscular Dystrophy Patient With Anomalous Coronary Artery: An Etiologic Conundrum. *J Am Coll Cardiol Case Rep* 2021.

**Schramm J** and Spurney CF. Evaluation and Management of Cardiac Complications in Neuromuscular Disorders. Book chapter in: T. Bertorini, ed. Neuromuscular Disorders: Treatment and Management. Philadelphia: Elsevier Saunders; 2021.

**Udine ML**, Evans F, Burns KM, Pearson GD, Kaltman JR. Geographical variation in infant mortality due to congenital heart disease in the USA: a population-based cohort study. *Lancet Child Adolesc Health* 2021.

**Udine ML**, Kaltman JR, Li Q, Liu J, Sun D, Cheung MC, Sabouni S, Al Dulaimi A, Sable C. Effects of blood pressure percentile, body mass index, and race on left ventricular mass in children. *Cardiol Young* 2022.

#### **Presentations**

#### Jen Klein:

Mapping geographic distribution of congenital heart disease: a single center experience. Pediatric Academic Society Annual Meeting, virtual presentation, 2020

# Jenny Schramm:

A rare case of Duchenne Muscular Dystrophy and anomalous coronary artery: MRI as the tiebreaker. Oral presentation at the Society of Cardiac Magnetic Resonance; virtual presentation, 2020

#### Michelle Udine:

Effects of Blood Pressure Percentile, Body Mass Index, and Race on Left Ventricular Mass in Children. Oral presentation at the American Heart Association Scientific Sessions, William J. Rashkind Memorial Lecture and Young Hearts Early Career Investigator Competition; virtual presentation, 2020

Geographic Variation in Infant Mortality Due to Congenital Heart Disease. Oral presentation at the American Heart Association Scientific Sessions, Alexander S. Nadas Lecture and Outstanding Research Awards in Pediatric Cardiology; irtual presentation, 2020

## Awards and grants

# Val Curren

Excellence in Medical Student Education 2021

## **Brad Ralston**

Excellence in Medical Student Education 2021

#### Jen Klein

Excellence in Medical Student Education 2021

America Heart Association/Children's Heart Foundation Post Doctoral Research Fellowship in Fetal Geo-mapping; two-year grant awarded 2021

## Jenny Schramm

Excellence in Medical Student Education 2021

# Michelle Udine

American Heart Association Young Hearts Outstanding Research Award in Pediatric Cardiology; awarded 2020

American Heart Association Young Hearts Early Career Investigator Award Finalist; awarded 2020

# Class of 2020

#### **Publications**

**Mandell JG**, Christopher AB, Olivieri LJ, Loke YH. Diagnosis of a coronary sinus atrial septal defect by 4D flow MRI. *Society of Cardiac Magnetic Resonance* 2020.

Mandell JG, Loke YH, Mass PN, Opfermann J, Cleveland V, Aslan S, Hibino N, Krieger A, Olivieri LJ. Aorta size mismatch predicts decreased exercise capacity in patients with successfully repaired coarctation of the aorta. *J Thorac Cardiovasc Surg* 2021.

Loke YH, Capuano F, **Mandell J**, Cross RR, Cronin I, Mass P, Balaras E, Olivieri LJ. Abnormal Pulmonary Artery Bending Correlates With Increased Right Ventricular Afterload Following the Arterial Switch Operation. *World J Pediatr Congenit Heart Surg* 2019.

**Romanowicz J**, Leonetti C, Dhari Z, et al. Treatment With Tetrahydrobiopterin Improves White Matter Maturation in a Mouse Model for Prenatal Hypoxia in Congenital Heart Disease. *J Am Heart Assoc* 2019.

**Romanowicz J,** Cross R. Index of Suspicion: Supraventricular Tachycardia in a Full Term Neonate. *Pediatrics in Review*. 2020.

**Romanowicz J**, Guerrelli D, Dhari Z, Mulvany C, Reilly M, Swift L, Vasandani N, Ramadan M, Leatherbury L, Ishibashi N, Posnack NG. Chronic perinatal hypoxia delays cardiac maturation in a mouse model for cyanotic congenital heart disease. *Am J Physiol Heart Circ Physiol* 2021.

**Romanowicz J**, Sinha P, Donofrio MT, Schidlow DN. Predicting Cardiac Anatomy, Physiology, and Surgical Management Based on Fetal Echocardiography in Heterotaxy Syndrome. *Am J Perinatol* 2021.

**Voleti S**, Olivieri L, Hamann K, Gordish-Dressman H, Spurney C. Troponin I Levels Correlate with Cardiac MR LGE and Native T1 Values in Duchenne Muscular Dystrophy Cardiomyopathy and Identify Early Disease Progression. *Pediatr Cardiol* 2020.

**Voleti S**, Adelbai M, Hovis I, Colyer J, Burns KM, Lewis EO, Arurang JK, Kikuharu A, Gonzales M, Pedro SJ, Zimmerman M, Krishnan A, Beaton A, Sable C, Dougherty S. Novel handheld ultrasound technology to enhance non-expert screening for rheumatic heart disease in the Republic of Palau: A descriptive study. *J Paediatr Child Health* 2021.

**Voleti S**, Okello E, Murali M, Sarnacki R, Majwala A, Ssembatya R, Bakka O, Namisanvu H, Njeri A, Matovu A, DeStigter K, Sable C, Beaton A. The personal and clinical impact of screen-detected maternal rheumatic heart disease in Uganda: a prospective follow up study. *BMC Pregnancy Childbirth* 2020.

**Voleti S**, Bukhari SM, Tongut A, Yerebakan C, Ito S, Loke YH. Anomalous Right Coronary Artery off the Pulmonary Artery Strikes When You Least Expect It! *CASE* 2020.

#### **Presentations**

#### Jason Mandell:

Aortic arch size following repair of aortic coarctation is predictive of exercise capacity. Oral presentation at SCMR 22nd Annual Scientific Sessions 2019; Seattle, WA.

# Jennifer Romanowicz:

Murine Fetal Echocardiography Shows Hydrops Fetalis in Hectd1 Mutants with Myocardial Thinning. Poster presentation at PAS Annual Meeting; Philadelphia, PA, 2020

Chronic Perinatal Hypoxia Delays Cardiac Maturation in a Mouse Model for Cyanotic Congenital Heart Disease. Moderated poster presented at the American College of Cardiology 69th Annual Scientific Sessions; Chicago, IL, March 2020.

Murine Fetal Echocardiography Shows Hydrops Fetalis in Hectd1 Mutants with Myocardial Thinning. Presented at: 6th Annual Meeting of the Greater Washington DC Chapter of the American Physiological Society, 2019.

Fetal echocardiography accuracy in predicting outcomes for congenital heart disease associated with heterotaxy syndrome. Poster presented at AHA Scientific Sessions 2019, Philadelphia, PA.

Neonatal Supraventricular Tachycardia as a Presentation of Critical Aortic Coarctation. Poster presented at ACC Scientific Sessions 2019; New Orleans, LA.

#### Sonia Voleti:

Troponin I Levels Correlate With Cardiac Magnetic Resonance Late Gadolinium Enhancement and Native T1 Values in Duchenne Muscular Dystrophy Cardiomyopathy and Identify Early Disease Progression. Poster presented at the American Heart Association Scientific Sessions; Chicago, IL, 2018

#### **Awards**

Jason Mandell

Excellence in Medical Student Education 2020

## Class of 2019

## **Publications**

**Kumthekar RN**, Opfermann JD, Mass P, Clark BC, Moak JP, Sherwin ED, Whitman T, Marshall M, Berul CI. Percutaneous epicardial placement of a prototype miniature pacemaker under direct visualization: An infant porcine chronic survival study. *Pacing Clin Electrophysiol* 2020.

Clark BC, **Kumthekar R**, Mass P, Opfermann JD, Berul CI. Chronic performance of subxiphoid minimally invasive pericardial pacemaker lead insertion in an infant animal model. *J Interv Card Electrophysiol* 2019.

**Kumthekar RN**, Opfermann JD, Mass P, Moak JP, Sherwin ED, Whitman T, Marshall M, Berul CI. Minimally Invasive Percutaneous Epicardial Placement of a Prototype Miniature Pacemaker with Leadlet under Direct Visualization: A Feasibility Study in an Infant Porcine Model. *Heart Rhythm Journal* 2019.

**Kumthekar R**, Berul CI. Implantable Cardioverter Defibrillators and Biventricular Pacing in Pediatric Dilated Cardiomyopathy: Preventing Death and Delaying Heart Transplant. *Progress in Pediatric Cardiology* 2018.

**Kumthekar RN**, Sumihara K, Moak JP. Pediatric radiofrequency ablation of cardiac parasympathetic ganglia to achieve vagal denervation. *Heart Rhythm Case Rep* 2020.

**Kumthekar RN**, Sinha L, Opfermann JD, Mass P, Clark BC, Yerebakan C, Berul CI. Surgical pericardial adhesions do not preclude minimally invasive epicardial pacemaker lead placement in an infant porcine model. *J Cardiovasc Electrophysiol* 2020.

**Mokshagundam D,** Olivieri LJ, McCarter R, Kim A, Sable CA, Spurney CF, Dham N. Cardiac Changes in Pediatric Cancer Survivors. *Journal of Investigative Medicine* 202.

**Mokshagundam D.** ed. Wernovsky, G. Myocarditis. In: *Pediatric Cardiology*. London, UK: Elsevier; 2019.

**Zimmerman M,** Scheel A, DeWyer A, Nambogo JL, Otim IO, Tompsett A, Rwebembera J, Okello E, Sable C, Beaton A. Determining the Risk of Developing Rheumatic Heart Disease Following a Negative Screening Echocardiogram. *Front Cardiovasc Med* 2021.

Voleti S, Adelbai M, Hovis I, Colyer J, Burns KM, Lewis EO, Arurang JK, Kikuharu A, Gonzales M, Pedro SJ, **Zimmerman M**, Krishnan A, Beaton A, Sable C, Dougherty S. Novel handheld ultrasound technology to enhance non-expert screening for rheumatic heart disease in the Republic of Palau: A descriptive study. *J Paediatr Child Health* 2021.

Stein E, Pulle J, **Zimmerman M**, Otim I, Atala J, Rwebembera J, Oyella LM, Harik N, Okello E, Sable C, Beaton A. Previous Traditional Medicine Use for Sore Throat among Children Evaluated for Rheumatic Fever in Northern Uganda. *Am J Trop Med Hyg* 2020.

Scheel A, Mirabel M, Nunes MCP, Okello E, Sarnacki R, Steer AC, Engelman D, **Zimmerman M**, Zühlke L, Sable C, Beaton A. The inter-rater reliability and individual reviewer performance of the 2012 world heart federation guidelines for the echocardiographic diagnosis of latent rheumatic heart disease. *Int J Cardiol* 2021.

Okello E, Ndagire E, Atala J, Bowen AC, DiFazio MP, Harik NS, Longenecker CT, Lwabi P, Murali M, Norton SA, Omara IO, Oyella LM, Parks T, Pulle J, Rwebembera J, Sarnacki RJ, Spurney CF, Stein E, Tochen L, Watkins D, **Zimmerman M**, Carapetis JR, Sable C, Beaton A. Active Case Finding for Rheumatic Fever in an Endemic Country. *J Am Heart Assoc* 2020.

**Zimmerman M,** Sable C. Congenital heart disease in low-and-middle-income countries: Focus on sub-Saharan Africa. *Am J Med Genet C Semin Med Genet* 2020.

**Zimmerman MS**, Smith AGC, Sable CA, Echko MM, Wilner LB et al., Global, regional, and national burden of congenital heart disease, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017 Lancet Child Adolesc Health. 2020; 4: 185-200.

Okello E, Murali M, Rwebembera J, **Zimmerman MS**, et al.Cross-sectional study of population-specific streptococcal antibody titres in Uganda. *Arch Dis Child*. 2020

## **Presentations**

#### Rohan Kumthekar:

Percutaneous Epicardial Placement of a Prototype Miniature Pacemaker Under Direct Visualization: An Infant Porcine Chronic Survival Study. Oral presentation at the 2019 Heart Rhythm Society Scientific Sessions, San Francisco, CA.

Minimally Invasive Percutaneous Epicardial Placement of a Custom Miniature Pacemaker with Leadlet. Oral presentation at the 2018 American Heart Association Scientific Sessions, Chicago, IL.

Native T1 Values Can Identify Pediatric Patients with Myocarditis. Poster presentation at 2018 Society for Cardiovascular Magnetic Resonance, Barcelona, Spain.

## Deepa Mokshagundam:

Cardiac Changes in Pediatric Cancer Survivors. Poster presentation at the 2019 American College of Cardiology Scientific Sessions, New Orleans, LA.

Ultra-High Frequency Echocardiography for Phenotyping Mutant Mouse Embryos with Cardiac Dysfunction. Poster presentation at the 2018 American Society of Echocardiography Scientific Sessions, Nashville, TN.

Forging Your Advocacy Path. Panel presentation at the 2019 American Academy of Pediatrics Legislative Conference.

#### Neeta Sethi:

T2 Mapping in the Surveillance of Acute Allograft Rejection in Pediatric Cardiac Transplant Patients. Poster presentation at 2018 Society for Cardiovascular Magnetic Resonance, Barcelona, Spain.

## Meghan Zimmerman:

Using GBD Data to Help Inform Priorities and Improve Care for Children with Heart Disease in LMIC. Invited oral presentation at 2018 World Congress of Cardiology and Cardiovascular Disease, Dubai.

Creating Sustainable Healthcare Models for Underserved Populations around the World. Keynote address at the Philips Healthcare Summit, Washington, DC, October 2018.

Relative Impact of Congenital Heart Disease on Mortality in Infancy Around the Gove: The Global Burden of Disease Study. Poster presentation at the 2017 American Heart Association Scientific Sessions, Anaheim, CA.

The Global Burden of Congenital Heart Disease and Nutritional Deficiencies. Oral presentation at the 7th World Congress of Pediatric Cardiology and Cardiac Surgery (2017), Barcelona, Spain.

Global Burden of Congenital Heart Disease. Oral abstract presented at 7th World Congress of Pediatric Cardiology and Cardiac Surgery (2017), Barcelona, Spain.

#### **Awards and Grants**

#### Rohan Kumthekar:

Paul C. Gillette PACES Research Grant (\$10,000) at Heart Rhythm Society 2019

NIH-NHLBI Grant: PeriPath: A Novel Pericardial Access Tool for Epicardial Pacing and Defibrillation

Medtronic Grant: Single-Incision Epicardial Placement of a Custom Miniature Pacemaker in an Immature Porcine Model: a Feasibility Study

Heart Rhythm Society Young Investigator Finalist

American Heart Association Travel Award

CNHS Board of Visitors grant: "PeriTorq: A Novel Tool to Improve the Safety Profile of Cardiac Ablation Procedures in Children"

Recognition for Excellence in Medical Student Education

# Deepa Mokshagundam:

Recognition for Excellence in Medical Student Education American Academy of Pediatrics elected representative

# Neeta Sethi:

Recognition for Excellence in Medical Student Education

CMR 2018 Regional Travel Award: Travel award from the Society for Cardiovascular Magnetic Resonance to attend the 2018 scientific sessions in Barcelona, Spain.

## Meghan Zimmerman:

George Washington University Milken School of Public Health Scholarship

#### Senior Clinical Fellowships and Advanced Training

Our program offers senior clinical fellowship opportunities in:

- Advanced Cardiac Imaging
- Electrophysiology
- Cardiac Critical Care (multiple positions)
- Research (through multiple institutional T32 awards)

Additionally, we have trained select internal candidates on an ad hoc basis as senior clinical fellows in:

- Interventional Cardiology
- Global Health (in conjunction with a Master's of Public Health)

Our **Advanced Imaging Fellowship** offers training in all advanced modalities including 3D echocardiography, transesophageal echocardiography, strain imaging, fetal cardiology, cardiac MRI, and cardiac CT. Our **Electrophysiology Fellowship** is offered to both internal and external applicants and includes all aspects of pediatric electrophysiology training including inpatient consultation, outpatient clinics, pacemaker and defibrillator placement and revision, invasive electrophysiology including zero-radiation studies with Carto mapping, and devices programming and management. Clinical and academic experiences are based at Children's National with supplemental invasive experience available with our partners at Washington Hospital Center. In addition to our **Cardiac Critical Care Fellowship**, many fellows also choose to pursue formal Critical Care Medicine fellowships after completing training in cardiology. Children's National is also proud to be one of four American Heart Association Centers of Excellence with a \$4M grant including three funded rheumatic heart disease fellowship positions.

Advanced degrees and certificates may be pursued through our affiliation with the George Washington University School of Medicine and Health Sciences. Some of our fellows have pursued Master's of Public Health degrees at the Milken Institute School of Public Health and coursework in as a part of their academic experience. Additionally, GW is home to the Master Teacher Leadership Development Program, a year-long certificate program for medical educators.

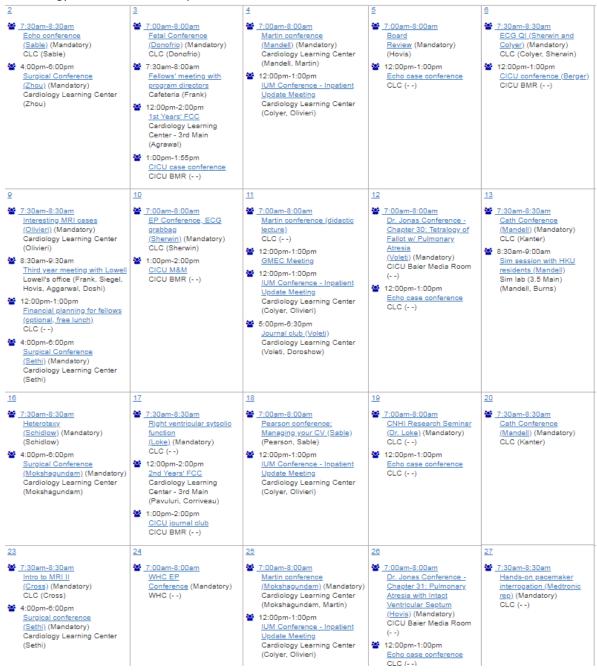


Children's National also offers distinct

two-week courses in <u>Global Health</u>, <u>Medical Education</u>, and <u>Health Policy</u> for fellows interested in those disciplines.

#### Academic Curriculum

The fellowship prides itself on a robust schedule of protected time education, including formal fellow lectures, cardiology division conferences, and hospital-wide conferences. Division conferences include Surgical Conference, Catheterization Conference, Journal Club, and Critical Event Review. Fellow conferences incorporate a wide variety of both learning modalities and topics and are relevant to both a robust education in pediatric cardiology as well as the pediatric cardiology board examination. Regular fellow conferences include sessions on echocardiography, electrophysiology, cardiac critical care, core book review, surgical techniques and perspectives, pathology, embryology, and principles of outpatient management. Fellows are also encouraged to attend Pediatric Grand Rounds, Pediatric Professorial Rounds, hospital basic science research lectures, and Washington Hospital Center cardiology conferences. A sample month's conference schedule is included below.



# Fellows College

The Fellow College occurs during the first and second years of training and comprises three full-day retreats each year with members of various fellowship programs at Children's National. This well-rounded curriculum includes didactic sessions in biostatistics, manuscript preparation, grant writing, and poster preparation as well as informal meetings to discuss quality improvement activities, ethics, job search skills, and contract negotiating. The Fellows College meets the ACGME requirements for exposure and training in these important topics. Sessions cover aspects of research, medical education, quality improvement, the business of medicine, and finding a job. Topics include:

- Basics of Biostatistics
- Design of Health Studies
- Healthcare Finance
- Navigating the IRB
- Writing an Abstract
- Poster and Oral Presentations for Scientific Meetings
- Health Advocacy
- Developing a Career Plan
- Manuscript Preparation
- CV Building
- Adult Learning Principles
- Writing Grants
- Quality Improvement Workshops
- Leading a Team
- Job Search Strategies
- Negotiating a Contract

## **International Opportunities**

Dr. Sable has been organizing and leading medical missions to Uganda for over 12 years. What started as a single provider seeing children with heart disease has evolved into a large team including

cardiologists, intensivists, anesthesiologists, nurses, perfusionists, and cardiac surgeons. Doctors at the Uganda Heart Institute are now independently performing heart surgery where no such program previously existed. Children's National is one of four centers to be awarded an American





Heart Association Strategically Focused Research Network grant building on our international research expertise. Through this network, Dr. Sable collaborates with experts from Cincinnati Children's, University of Tennessee, and University of Washington as well as Uganda, South Africa, and Australia for basic, translational, clinical, and population health research in rheumatic heart disease. Many of our fellows have traveled to Uganda for clinical and research trips, where activities have included large-scale screening of children with unrepaired congenital heart disease, post-operative care of cardiac patients, large-scale screening of school children for rheumatic heart disease, assessing the psychosocial impact of rheumatic heart disease, interfacing with local teams to provide care, and importantly, the education of local providers. Our fellowship offers unmatched opportunities for fellows interested in a meaningful global health experience both through the above opportunities and through the Children's National Global Health Initiative.

# **Children's National Heart Institute Programs**

A description of select components of the CNHI's programs is provided below.

#### Cardiac Catheterization

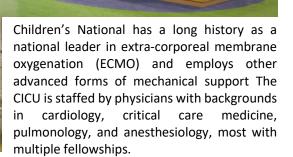


Approximately 700 cardiac catheterizations are performed each year at Children's National in our three state-of-the-art digital catheterization laboratories. We offer the full range of complex intervention, including stent placement, device occlusion of ASD/VSD, transcatheter pulmonary and tricuspid valve replacement, ductal stenting, and hybrid stage I palliation. The patient population ranges from premature neonates to adults with congenital heart disease. Our iCMR (interventional

<u>cardiac magnetic resonance imaging</u>) suite is one of the only pediatric catheterization laboratories in the world offering MRI-guided catheterization. Fellows have the opportunity to observe and participate in multiple ongoing research projects during their cath lab rotations.

#### Cardiac Intensive Care

The CICU at Children's National is a **26-bed state-of-the-art unit** that cares for surgical and medical patients including neonates, infants, children, and adults with congenital heart disease. This **34,000** square foot unit includes state-of-the-art monitoring equipment, a fully equipped simulation room, and a comprehensive digital media room.





The Cardiac MRI program at Children's National is a busy clinical service, performing **over 600 cardiac MRIs and 100 cardiac CTs annually** on infants, children, and adults with congenital heart disease. The cardiac MRI program is engaged in cutting-edge research efforts, working with scientists and physicists at the National Institutes of Health to create innovative imaging sequences as well as make current imaging faster and more accurate. Children's National is a national leader cardiac MRI, and our iCMR, a state-of-the-art hybrid fluoroscopy and MRI suite designed for cardiac catheterization under MRI guidance as well as image fusion techniques, allows for innovative imaging with reduced radiation exposure.

# Cardiac Procedure Recovery Unit

The CPRU is a team of practitioners specially trained in the procedural and recovery care of infants, children, and adults undergoing cardiac catheterization, electrical cardioversion, and transesophageal and sedated transthoracic echocardiograms.

## Cardiovascular Surgery

Over 650 cardiac operations are performed each vear Children's National. Repair of simple and complex cardiac disease in children and adults with congenital heart disease is carried out including complex neonatal repairs in the smallest infants. Dr. Yves d'Udekem, one of the most accomplished pediatric cardiac surgeons in the world, joined Children's National in 2020 from the Royal Children's Hospital in Melbourne.



addition to its active clinical program, the Division of Cardiovascular Surgery maintains an active research laboratory in the Children's Research Institute.

# **Echocardiography**

The Echocardiography Laboratory was the first digital pediatric echocardiography lab in the country and performs approximately **21,000 transthoracic echocardiograms**, **3,000 fetal echocardiograms**, **and 650** 



the-art software to analyze ventricular mechanics. Children's serves as a development site for industry leaders in echocardiography and telemedicine and frequently has access to new technology before it is released to the market.

transesophageal echocardiograms per year. Activities also include telemedicine, three-dimensional echocardiography, strain and strain-rate imaging, and dyssynchrony and cardiac resynchronization studies. The Echocardiography Laboratory includes a telemedicine terminal as well as a dedicated research station with state-of-



#### Electrophysiology

A wide range of invasive and non-invasive electrophyisologic procedures are performed at Children's National. State-of-the-art equipment is used in our electrophysiology laboratory, including approximately **200 interventional cases per year**. Noninvasive testing includes pacemaker interrogation, electrocardiograms, Holter monitoring, event recorders, tilt table testing, and signal-averaged electrocardiography. The electrophysiology team is comprised of four electrophysiologists, four dedicated nurses and nurse practitioners, and a senior clinical electrophysiology fellow.

# **Fetal Heart Program**

The Fetal Heart Program is a leader in fetal cardiology, including first trimester imaging and a specialized Fetal Delivery Service. Fetal cardiologists collaborate with maternal-fetal medicine specialists and obstetricians as well as cardiac intensivists, interventional cardiologists, electrophysiologists, and adult congenital cardiologists to provide care for the fetus and mother and to coordinate risk-adjusted deliveries. Fetal cardiologists also work with the Prenatal Pediatrics Institute to care for fetuses with extracardiac abnormalities and in multiple grant-funded research projects.

## **Heart and Kidney Unit**

The Heart and Kidney Unit, a **20 bed acute care unit**, cares for neonates, infants, children, and adults with congenital heart disease on the Cardiovascular Surgery and Cardiology Inpatient Services.

#### Heart Transplantation and Advanced Cardiac Therapies

The Heart Transplantation and Advanced Heart Failure Program at Children's National is a very busy clinical service including inpatient acute and critical care, outpatient care, and pre- and post-transplant care. The team staffs numerous outpatient heart failure and transplant clinics as well as co-rounding with the HKU and CICU teams. Children's National has continually provided medical and interventional pre- and post-transplant care for many years, and has performed approximately **70 transplants since 2013**. Children's National has long been a national leader in ECMO and offers the full array of ventricular assist devices including the Berlin Heart, HeartWare, HeartMate, and CentriMag devices with a dedicated VAD manager and nurse practitioner.

# **Pulmonary Hypertension**

Children's National is proud to have the only advanced Pulmonary Hypertension Program in the region. Clinical services include inpatient consultations and outpatient clinics with the full spectrum of therapies utilized, including ambulatory continuous infusions and newer pharmacological agents. We have recently started a lung transplantation program to expand our therapeutic options.

#### **Outpatient Clinics**

Over 18,000 outpatient cardiology visits per year take place at Children's National and its regional outpatient centers. Specialty programs at Children's National include:



- Single Ventricle Interstage Program
- Hyperlipidemia/Preventive Cardiology Clinic
- Advanced Cardiac Therapies Clinic
  - Pulmonary Hypertension Clinic
- Cardiac, Oncology, and Blood Disorders clinic
- Cardiac Neurodevelopmental Outcomes Program (CANDO)
- Cardiogenetics: Inherited Arrhythmias
- Cardiogenetics: Cardiomyopathies

Our Single Ventricle Interstage Clinic utilizes telemedicine home monitoring and is staffed by a multidisciplinary team of cardiologists, nurse practitioners, and a dedicated nutritionist and has resulted in one of the lowest interstage mortality rates in the country.

# Washington Adult Congenital Heart Program

Children's National's has an accredited ACHD program comprising a specialized team of transitional and adult congenital cardiologists. This population includes older patients who underwent the Mustard or Senning operation for D-transposition of the great arteries, modified Fontan operation for single ventricle anatomy, and tetralogy of Fallot repair. Complex issues including arrhythmias, polycythemia, pregnancy, and psychosocial ramifications are addressed by the team.

#### **Recent Graduates**

All graduating cardiology fellows have been successful at pursuing academic, private, or military careers after completing their fellowship, including both research and senior clinical fellowships at Children's National and other prestigious institutions. The post-graduation experiences of our recent graduates are shown below.

Fellow	Year	Post-Graduation Experience
Jeff Hong	2023	Electrophysiology fellowship at Boston Children's Hospital
Laura Lowrey	2023	Faculty at Duke University
Priya Misra	2023	Faculty at Children's Colorado
Sarah Kollar	2023	Advanced imaging fellow at Children's National
Marie Carillo	2022	Faculty at Children's Hospital of Philadelphia
Jonathan Nyce	2022	Faculty at Hasbro Children's Hospital/Brown University
Bryanna Schwartz	2022	Medical officer at NIH/NHLBI; faculty at Children's National
Bonnie Brooks	2021	CICU faculty at UCLA
Valerie Curren	2021	Faculty at Children's National; faculty at Johns Hopkins
Jennifer Klein	2021	AHA/Children's Heart Foundation research grant
Brad Ralston	2021	Senior clinical CICU fellow at Boston Children's; anesthesiology residency at GW
Jenny Schramm	2021	Senior clinical CICU fellow at Stanford; CICU faculty at Johns Hopkins
Michelle Udine	2021	Advanced imaging fellow at Children's National; imaging faculty at Children's National
Jason Mandell	2020	Advanced imaging fellow at Children's National; imaging faculty at U. Rochester
Jennifer	2020	Advanced imaging fellow at Boston Children's; imaging faculty at Children's
Romanowicz		Colorado
Sonia Voleti	2020	Faculty at Loma Linda University
Rohan Kumthekar	2019	Electrophysiology fellow at Children's National, EP faculty at Nationwide Children's
Deepa Mokshagundam	2019	Heart failure and transplant fellow, subsequent faculty position at Washington University in St. Louis
Neeta Sethi	2019	Advanced imaging fellow at Children's National, imaging faculty at Duke University
Meghan Zimmerman	2019	Global Health Fellow, Faculty at Dartmouth-Hitchcock Children's Hospital

## **Benefits**

Benefits for all Children's National employees include health, dental, and vision insurance; flexible spending accounts, life insurance, sick leave, disability insurance, and back-up dependent child and elder care. More information is available on our website. All cardiology fellows receive a laptop computer for use during their training in addition to a \$1,500 educational stipend per year for books, conferences, and other educational materials. The 2023-2024 salary scale for cardiology fellows at Children's National Medical Center is as follows:

	FY24 Salary
PGY4	\$87,403
PGY5	\$90,721
PGY6	\$94,565
PGY7	\$98,581
PGY8	\$102,779

More information about salary, contracts, benefits, and Visa information can be found at <a href="https://childrensnational.org/healthcare-providers/healthcare-education/residencies-and-fellowships/candidates-for-residency-or-fellowship">https://childrensnational.org/healthcare-providers/healthcare-education/residencies-and-fellowships/candidates-for-residency-or-fellowship</a>

# CHILDREN'S NATIONAL HEART INSTITUTE FACULTY ROSTER



# Charles I. Berul, M.D.

Dr. Berul is Chief of the Division of Cardiology and Co-Director of the Children's National Heart Institute. He was born in Washington, DC and was raised in the area. He earned his bachelor's and master's degrees in biology from Bucknell University and then received his Doctor of Medicine from the University of Maryland. Dr. Berul completed his internship and residency in pediatrics at Yale, followed by specialty fellowship training in pediatric cardiology and electrophysiology at Children's

Hospital of Philadelphia. He was the director of the Pacemaker Program at Children's Hospital Boston, Harvard Medical School until coming to Children's National Medical Center in 2009. Dr. Berul is a professor of Pediatrics at George Washington University School of Medicine. Dr. Berul is a fellow of the Heart Rhythm Society, the American Academy of Pediatrics, the American College of Cardiology, the Society for Pediatric Research, and the American Heart Association's Council on Cardiovascular Disease in the Young. Dr. Berul has over 250 publications in the field of pediatric cardiology. He is an invited speaker nationally and internationally and is an acknowledged expert in the area of pediatric cardiac electrophysiology.



## Lowell H. Frank, M.D.

Dr. Frank joined the faculty of Children's National in 2010 and is the Director of the Cardiology Fellowship Training Program. He received his B.A. with Distinction in All Subjects at Cornell University with dual majors in music and biochemistry and received his M.D. from the Weill Medical College of Cornell University. Dr. Frank completed his training in pediatrics at Cornell where he received the Department of Pediatrics Award for Teaching Excellence in his final year. He completed his fellowship training in pediatric cardiology here at Children's National, where he twice

received the David Lewis Award for Most Outstanding Fellow. He subsequently completed a senior fellowship in advanced cardiac imaging at Children's National. Dr. Frank has conducted research at the National Heart, Lung, and Blood Institute of the National Institutes of Health analyzing ventricular mechanics in models of congenital heart disease. His research interests include advanced echocardiographic measures of ventricular function, dyssynchrony, and echocardiographic resource utilization. He is the co-investigator on multiple grants investigating myocardial markers of sudden death in patients with refractory epilepsy. Dr. Frank leads the fellows' pathology sessions and contributes to the weekly echo conferences and was awarded the 2016 Jodi I. Pike Award for Excellence in Teaching from the cardiology fellows. He is a graduate of the George Washington University Master Teacher Leadership Development Program. He participates in transthoracic, transesophageal, and three-dimensional echocardiography; attends on our Single Ventricle Team; and participates in inpatient outpatient care. He has a particular interest in medically complex patients and international adoption.



## Christopher F. Spurney, M.D.

Dr. Spurney is the Associate Director of the Cardiology Fellowship Training Program. He joined the division of cardiology in July 2004 after completing his pediatric residency at Columbia and in pediatric cardiology fellowship at Children's National Medical Center. Dr. Spurney obtained a B.A. in biology at Cornell University and completed his medical degree at New York Medical College. He was awarded the National Institute of Child Health and Human Development Child Health Research K12

Career Development Award in 2004. He performs research in the Children's Research Institute at the Center for Genetic Medicine, investigating cardiomyopathy related to muscular dystrophies including

non-invasive imaging of pre-clinical muscular dystrophy, small animal models and novel non-invasive imaging, and serum biomarkers of cardiomyopathy, in Duchenne muscular dystrophy patients. He serves as the Associate Training Director for the AHA SFRN RHD Fellowship program. His clinical interests include inpatient cardiology, echocardiography, and outpatient care, where he runs a specialized muscular dystrophy clinic. Dr. Spurney has a long track record of successful research mentoring of medical students, residents, and cardiology fellows.



## Annette Ansong, M.D.

Dr. Ansong is the medical director of outpatient cardiology at Children's National Hospital. Dr. Ansong is the proud daughter of immigrants from Ghana and has been fortunate to have been born, raised, and worked in the Washington, D.C., area. She is a graduate of the University of Virginia, followed by medical school at Howard University College of Medicine. She completed her Pediatrics residency and Pediatric Cardiology fellowship at Duke University Medical Center, while also obtaining a

Master of Health Science in Clinical Research. From 2009 - 2021, Dr. Ansong was been in private practice in Virginia. Her work there led to recognition as a Northern Virginia and Washingtonian Top Doctor. She is involved regionally and nationally on issues of diversity, equity, and inclusion. She also has an interest in global health and has performed mission work in Ghana and Haiti. Dr. Ansong currently co-chairs the Women and Children Committee of the Association of Black Cardiologists, Inc., and serves on the Adult Congenital & Pediatric Cardiology Leadership Council of the American College of Cardiology.



# Jeffrey A. Becker, M.D.

Dr. Becker joined Children's National in August 2008 and is the primary pediatric cardiology consultant at Holy Cross Hospital. He sees patients throughout the DC region. He is board certified in general pediatrics and pediatric cardiology, a diplomat of the National Board of Medical Examiners, a fellow of the American Academy of Pediatrics and the American College of Cardiology, and a member of the North American Society for Cardiac Imaging. Dr. Becker received his Doctor of Medicine from the George Washington University School of Medicine. He completed his

residency in pediatrics at Walter Reed Army Medical Center, Washington, D.C. and his fellowship training in cardiology at Children's National Medical Center. His primary interests include non-invasive cardiac imaging and outpatient cardiology.



#### Natalie Behrle, M.D.

Dr. Behrle joined the Children's National in 2023 as a part of our Children's National at Richmond team. She previously practiced in Kalamazoo, Michigan. She received her medical degree from The University of Toledo College of Medicine. Her pediatric resident training was completed at the University of Missouri-Columbia Women's and Children's Hospital. She has fellowship training in pediatric cardiology from the Ward

Family Heart Center Children's Mercy Hospital, Kansas City. Her clinical, teaching, and research interests include quality improvement and evidence-based medicine education.



John T. Berger, III, M.D.

Dr. Berger is a cardiologist, cardiac intensivist, and pulmonary hypertension specialist in addition to his role as the medical director of our ECMO program and interim medical director of the cardiac intensive care unit. He received his undergraduate degree from the University of Virginia and his medical degree from Washington University School of Medicine in St. Louis. He then completed his training in pediatrics at Oregon Health & Science University followed by fellowships in cardiology and critical

care medicine at Children's National. In addition to his ICU practice, he serves as director of the Pulmonary Hypertension Program and is a member of the Heart Failure and Transplantation team. He has completed the Master Teacher program at George Washington University and has been an invited speaker regionally and nationally. Dr. Berger serves as the co-investigator in the Collaborative Pediatric Critical Care Research Network Dr. Berger received the 2018 Jodi I. Pike Award for Excellence in Teaching.



## Kristin M. Burns, M.D.

Dr. Burns joined the Children's National Medical Center faculty in 2011. She received her bachelor's degree from Wellesley College and her medical degree from the University of Massachusetts. Dr. Burns completed her pediatric residency and chief residency at Hasbro Children's Hospital and Brown University and her pediatric cardiology fellowship at Children's National Medical Center. She is also a medical officer in the Heart Development and Structural Diseases Branch in the Division of

Cardiovascular Sciences at the National Heart, Lung, and Blood Institute (NHLBI), part of the NIH.



# Michael Bykhovsky, M.D.

Dr. Bykhovsky joined Children's National in 2022 as a member of our adult congenital heart disease team. He completed his subspecialty training in ACHD at Stanford University with prior pediatric cardiology training at the Children's Hospital of Georgia. He is additionally board certified in internal medicine and pediatrics with a combined Med-Peds residency at Stony Brook University.



#### Hannah Canty-Daughtrey, M.D.

Dr. Canty-Daughtrey joined our Cardiac Intensive Care Unit team in 2022. She received a Bachelor of Science from the University of California, Los Angeles followed by her Doctor of Medicine from Geisinger Commonwealth School of Medicine. She traveled back west for her pediatric residency at Oregon Health and Science University. Subsequently, she completed her fellowship in pediatric critical care medicine at Lucile

Packard Children's Hospital at Stanford University, and her cardiac critical care medicine training at Children's National Hospital. While at Stanford, Dr. Canty-Daughtrey was the chief fellow as well as co-chair of the Pediatric Department Fellows' Council. She was recognized for her advocacy for trainees and leadership with the Kelley M. Skeff Professionalism Award. Her interests include trainee advocacy and wellness, end of life care, and long-term psychosocial outcomes for children following critical illness.



# Sarah B. Clauss, M.D.

Dr. Clauss joined our staff in September 2002 and leads the Single Ventricle Program. She received her bachelor's degree from Cornell University and her medical degree from SUNY Buffalo. She completed her pediatric residency at Children's Hospital of Pittsburgh and her pediatric cardiology fellowship at Johns Hopkins. Dr. Clauss has a busy clinical practice in Shady Grove and in Hagerstown in addition to her time reading in the echo lab. In addition to her single ventricle, outpatient, and echo lab

duties, she is a core member of our preventive cardiology team with a special interest in dyslipidemias. Dr. Clauss' research interests include the use of carotid intimal medial thickness in children with hypertension.



# Susan D. Cummings, M.D., M.P.H.

Dr. Cummings' primary interests are in inpatient and outpatient care as well as echocardiography. Dr. Cummings joined the Children's National staff in 1998. She received her bachelor's degree from Duke University, her medical degree from Johns Hopkins University, and her pediatric residency and pediatric cardiology fellowship at Children's Hospital Boston. She subsequently completed a senior fellowship in echocardiography at Children's National Medical Center. Dr. Cummings' focus

includes education in transthoracic, transesophageal, and fetal echocardiography, and she was awarded the inaugural Jodi I. Pike Award for Excellence in Cardiology Fellow Education.



# Shriprasad Deshpande, M.B.B.S.

Dr. Deshpande will be joining our team in the fall of 2018 as the Director of Heart Failure, Transplantation, and Advanced Cardiac Therapies. Dr. Deshpande obtained his medical degree from Lokmanya Tilak Medical College, in Mumbai, India, in 1998. He completed his residency in pediatrics at the University of Iowa Hospitals and Clinics in 2007. From 2007 to 2010, Dr. Deshpande was a fellow in pediatric

cardiology, and an advanced fellow in pediatric cardiac intensive care from 2010 to 2011, at Children's Healthcare of Atlanta. Dr. Deshpande's roles include Cardiac ICU service and inpatient and outpatient transplant and heart failure service and clinics. His clinical interests include cardiac critical care, biomarkers in heart failure, and mechanical support.



#### Niti Dham. M.D.

Dr. Dham joined the Children's National team in 2009. She completed her fellowship in pediatric cardiology and a senior fellowship in advanced cardiac imaging fellowship at Children's National Medical Center. Prior to this, her cardiology fellowship included training at Columbia University and Tulane University. Her clinical interests include echocardiography, heart failure, and inpatient and outpatient care. Dr. Dham is the lead cardiologist involved in Children's National's Cardiology-Oncology-Blood Disorders Clinic, a multidisciplinary

clinic focusing on the cardiac evaluation and management of children and young adults with a history of malignancies and hematologic diseases. Her research is focused on echocardiography in the evaluation of patients with sickle cell disease and heart failure as well as cardiac sequelae of chemotherapy.



# Yuliya Domnina, M.D.

Dr. Domnina serves as Medical Unit Director in the Cardiac Intensive Care Unit and Director of Quality and Safety for Children's National Heart Institute. Dr. Domnina completed medical school and residency in Russia with additional residency at Woodhull Medical Center in Brooklyn, NY. She completed her critical care fellowship at Massachusetts General Hospital followed by a senior clinical

fellowship in pediatric cardiac critical care at Children's Hospital of Pittsburgh, where she practiced prior to being recruited to Children's National.



# Mary T. Donofrio, M.D.

Dr. Donofrio is Medical Director of the Fetal Heart Program, the Critical Care Delivery Program, the Advanced Cardiac Imaging Fellowship, and co-director of the Cardiac Neurodevelopmental Outcome Program. She graduated from Johns Hopkins University and received her M.D. from Mount Sinai School of Medicine. She trained in pediatrics at the New York Hospital – Cornell Medical Center followed by cardiology training at the Children's Hospital of Philadelphia with advanced training in fetal

echocardiography at Yale University. Her research has focused on fetal cardiovascular physiology and heart function, including studies of autoregulation of cerebral blood flow in fetuses with congenital heart disease and delivery room management strategies to improve the neurodevelopmental outcome of babies born with congenital heart disease. Dr. Donofrio has published over 100 peer reviewed papers, including the 2014 Scientific Statement: Diagnosis and Treatment of Fetal Cardiac Disease. She is the founding president of the Fetal Heart Society, a multidisciplinary multicenter collaborative research organization and is a Board Member on the Steering Committee of the Cardiac Neurodevelopmental Outcome Consortium.



#### Robin W. Doroshow, M.D.

Dr. Doroshow leads the Georgetown University pediatric cardiology program. Her primary interests include outpatient cardiology, echocardiography, and medical education. She has been in practice since 1978 after graduating from Harvard Medical School and completing residency and fellowship training at the University of Colorado and a research fellowship at Children's Hospital Boston. She joined the staff at Children's National in 2003 after spending 12 years in the University of California,

Los Angeles. Dr. Doroshow is the faculty leader of the division's journal club and is active in medical student, resident, and fellow education.



# Tacy Downing, M.D.

Dr. Downing joined Children's National in 2018 from Nicklaus Children's Hospital in Miami. She completed medical school and an Internal Medicine-Pediatrics residency at Duke University. Following that, she completed her categorical cardiology fellowship as well as advanced fellowship training in both adult congenital heart disease and interventional cardiology at the Children's Hospital of Philadelphia. She is Board Certified in Internal Medicine, Pediatrics, and Pediatric Cardiology. Dr.

Downing balances her time between interventional cardiology and adult congenital heart disease clinics. Her research interests include single ventricle physiology and outcomes of stent implantation in infants.



# Mary L. Falterman, M.D.

Dr. Falterman joined our team in 2019 as a part of our new practice in Richmond, Virginia. A 1984 graduate of the Medical University of South Carolina, she completed residency in pediatrics at University of Texas Austin and her cardiology fellowship at the Medical College of Virginia. In 1991, she joined Pediatric Cardiology of Central Virginia which later joined Children's National Hospital. Dr. Falterman's professional expertise spans a wide range of cardiac concerns, including

dysrhythmias, adult congenital disease, and child and adolescent inherited/acquired cardiovascular risk factors, with a special interest in fetal echocardiography. Dr. Falterman has been voted as a Top Doctor in pediatric cardiology by the Richmond Magazine survey since its inception 20 years ago.



# Craig Futterman, M.D.

Dr. Futterman is an attending physician in the Cardiac Intensive Care Unit and a clinical informaticist in the Bear Institute, our collaborative IT program. Dr. Futterman received his bachelor's degree from George Washington University and his MD from Eastern Virginia Medical School. He completed residency training in both pediatrics and anesthesiology at Akron Children's Hospital and a combined

fellowship program and anesthesia and pediatric critical care medicine at Children's Hospital Boston. After many years practicing both general pediatric critical care and pediatric cardiac critical care at Inova Hospital in Fairfax, Virginia, Dr. Futterman joined our cardiac ICU team. Dr. Futterman devotes considerable time to information technology and medical informatics and is a member of the Bear Institute, our innovative clinical information technology team.



Suma P. Goudar, M.D.

Dr. Goudar returned to Children's National in 2019 as a member of our echocardiography and fetal cardiology teams. After completing residency here in Washington, DC in 2008, she completed her cardiology and advanced imaging fellowships at the Medical University of South Carolina. She then joined the faculty at Children's Mercy Hospital in Kansas City. Dr. Goudar is a graduate of Duke

University and the University of North Carolina School of Medicine. She has published research on diastolic function in single ventricle patients and speckle tracking echocardiography,



# Ashraf S. Harahsheh, M.D.

Dr. Harahsheh is the Director of Cardiology Quality and Outcomes for the division of cardiology. He joined Children's National in September 2008 after completing his residency and fellowship training at the Children's Hospital of Michigan. He received his Doctor of Medicine from the University of Jordan-College of Medicine, Amman, Jordan. Dr. Harahsheh is director of resident education in our division and is active in inpatient and outpatient care as well in the preventive cardiology program with a focus on hyperlipidemia. He is active in the Joint Council on Congenital Heart

Disease's National Pediatric Cardiology Quality Improvement Collaborative as well as the International Kawasaki Disease Registry. Dr. Harahsheh has spearheaded our ambulatory cardiology telemedicine efforts and also serves as the Medical Director of the Northern Virginia Regional Outpatient Center.



#### Ian Hovis, M.D.

Dr. Hovis joined our team in the summer of 2018 after completing his cardiology fellowship at Children's National and now serves as the Medical Unit Director for the Heart and Kidney Unit as well as the Director of Inpatient Cardiology. Dr. Hovis established a track record of success here in Washington, making two trips to Uganda for rheumatic heart disease research and achieving recognition for excellence in medical student education. He has since completed the Master Teacher Leadership Development Program at George Washington University. Dr. Hovis' practice focuses

on outpatient care, and his academic interests including medical student, resident, and patient/family education.



# Seiji Ito, M.D.

Dr. Ito joined Children's National in 2015. He completed his medical degree at the Ehime University School of Medicine in Japan followed by residency in medicine and pediatrics at the University of Missouri-Kansas City. He completed his cardiology fellowship at New York University and a fellowship in Adult Congenital Heart Disease at the University of Washington in Seattle. In addition to his core role as a part of the Washington Adult Congenital Heart Program, Dr. Ito is a part of our cardiac MRI

team. Dr. Ito was awarded the 2017 Jodi I. Pike Award for Excellence in Teaching from the fellows and is a graduate of the Master Teacher Leadership Development Program.



# Anitha S. John, M.D., Ph.D.

Dr. John joined Children's National in 2011 and is the Medical Director of the Washington Adult Congenital Heart Program. After completing an accelerated undergraduate degree from Villanova University in 1994, she obtained a Ph.D. in the molecular pathobiology program in 1999 and completed her medical degree in 2001 from the Drexel University Medical School. She completed a combined internal medicine-pediatrics residency program at Brown University, pediatric cardiology

fellowship at Children's Hospital of Philadelphia, and a senior fellowship in adult congenital heart disease at the Mayo Clinic. Dr. John practices at Children's National and participates in the Echocardiography Laboratory at the Washington Hospital Center. Her recent research has focused on liver dysfunction in patients with the Fontan palliation for single ventricles.



# Jonathan Kaltman, M.D.

Dr. Kaltman joined Children's National in 2007 after serving on faculty as the Children's Hospital of Philadelphia, where he completed his pediatric internship and residency, his cardiology fellowship, and his subspecialty training in electrophysiology. Dr. Kaltman serves as the Medical Director for Discovery Medicine at BioMarin Pharmaceuticals. He is a former a Branch Chief in the Heart Development and Structural Diseases Branch in the Division of Cardiovascular Sciences at the National Heart, Lung, and Blood Institute (NHLBI), of the NIH. In this

role, he was responsible for developing new research initiatives and managing basic and clinical research grants in the multiple areas of pediatric cardiology and also was a leader in the Pediatric Cardiac Genomics Consortium, a multi-center translational research group investigating the association of genetic variation with congenital heart disease diagnosis and outcome. He previously helped to oversee the Pediatric Heart Network, a multi-center clinical research network conducting studies in children with congenital heart disease.



## Joshua P. Kanter, M.D.

Dr. Kanter is director of the Cardiac Catheterization Laboratory at Children's National. He received his medical degree and pediatric training from the State University of New York Health Science Center at Syracuse and completed fellowship training in pediatric cardiology and interventional pediatric cardiology at the New York Presbyterian Hospital, Columbia University Medical Center. Dr. Kanter specializes in diagnostic and interventional pediatric cardiac catheterization for the treatment of congenital heart disease. He has extensive experience implanting transcatheter

pulmonary valves, and is an expert in the device closure of atrial septal defects, ventricular septal defects, and patent ductus arteriosus. He is an investigator in a number of national multi-center research studies to examine new devices and to track clinical outcomes. He serves on several national committees including the NCDR IMPACT™ Registry Implementation Group and the American College of Cardiology Annual Scientific Session Program Committee.



# Sairah Khan, M.D.

Dr. Khan joined Children's National in 2016 as part of the Heart Failure and Transplant team. A native of northern Virginia, she received her undergraduate degree in biology and psychology from the University of Rochester, where she subsequently completed medical school. She completed her Pediatrics residency at the University of North Carolina followed by a Cardiology fellowship at Nationwide Children's in Columbus, Ohio. Dr. Khan did an advanced fellowship in Pediatric Heart

Failure, Cardiomyopathy, and Transplant at Cincinnati Children's Hospital. Dr. Khan's research interests include heart failure biomarkers, transplant clinical immunology, and quality-of-life measurements in cardiomyopathies and transplant patients.



# Jennifer Klein, M.D., M.P.H.

Dr. Klein joined the Children's National faculty in 2023 as a part of our echocardiography and fetal cardiology teams. Dr. Klein graduated from Washington University in St. Louis and received her medical degree from Emory University. After residency here at Children's National, she worked in general pediatrics before rejoining our team as a cardiology fellow. During her fellowship, she received her Master's of Public Health from the Milken School of Public Health at George

Washington University. Dr. Klein received and American Heart Association/Children's Heart Foundation grant that supported her research in geomapping and social determinants of health as well as advanced training in fetal cardiology.



# Anita N. Krishnan, M.D.

Dr. Krishnan joined the Division of Cardiology as faculty in October 2009. She received her undergraduate degree from the Massachusetts Institute of Technology, where she studied chemical engineering. She attended Northwestern University for medical school and subsequently completed her pediatric residency, pediatric cardiology fellowship, and advanced imaging fellowship at Children's National. Her research interests include the investigation of novel techniques for fetal ECG

monitoring and the analysis of disparities in health care using geomapping data. Her clinical practice focuses on fetal cardiology, transthoracic and transesophageal echocardiography, and inpatient and outpatient care.



# Stephanie Lacey, D.O.

Dr. Lacey joined our team in 2019 as a part of our new practice in Richmond, Virginia. Prior to joining Children's National Cardiology Richmond, she served as the director of the Pediatric Echocardiography Lab and director of the Fetal Cardiac Care Clinic with the University of Florida. Early in her time in Florida, she collaborated with our team on Global Health missions to Uganda. Dr. Lacey attended Lake Erie College of

Osteopathic Medicine before completing her pediatric residency at Geisinger Medical Center in Pennsylvania. She completed her pediatric cardiology fellowship in Richmond at VCU. Her interests include echocardiography, fetal cardiology, and echocardiography.



## Linda Leatherbury, M.D.

Dr. Leatherbury returned to Children's National Medical Center in October 2001 after 16 years on the faculty at the Medical College of Georgia. She is board certified in pediatric cardiology. Dr. Leatherbury completed her residency and fellowship at Children's National and was recognized for excellence in teaching during her time here. Her primary interests are inpatient and outpatient care, clinical and basic science education, and basic science research. Dr. Leatherbury has mentored numerous

undergraduates, post-doctoral fellows, and cardiology fellows in the Laboratory of Developmental Biology at the NIH and is active in research investigating genetic mutations in mouse models of congenital heart disease.



# Yue-Hin Loke, M.D.

Dr. Loke joined the Children's National Medical Center faculty in 2018 and is the Director of the Cardiac Visualization Laboratory. He received his bachelor's degree from University of Maryland and his medical degree from the Indiana University School of Medicine followed by his pediatric residency, pediatric cardiology fellowship, and advanced cardiac imaging fellowship at Children's National. Dr. Loke is an early adopter of new imaging technology and his interests include

echocardiography, cardiac MRI/CT, 3D printing, and computational fluid dynamics in congenital heart disease. His research interests have strengthened the relationship with George Washington Department of Bioengineering. Dr. Loke is the recipient of multiple competitive research grants and is a sought-after mentor for trainee research. He is the 2018 recipient of the Jodi I. Pike Award for Excellence in Teaching.



# Alejandro Lopez-Magallon, M.D.

Dr. Lopez-Magallon joined Children's National in 2017. He received his medical degree in 1986 from the Escuela Medico Militar followed by internship and residency at Esceula Militar de Graduados de Sanidad. He subsequently completed fellowship training at the Massachusetts General Hospital and Boston Children's Hospital. His interests include cardiac critical care and telemedicine, and he has worked with cardiac critical care units in Columbia to improve care and reduce mortality. His

clinical responsibilities include cardiac ICU practice, working with our telemedicine partners, and reading in our echo lab.



## Gerard R. Martin, M.D.

Dr. Martin, the Medical Director for Global Services, has been in practice at Children's National Hospital since 1986. Dr. Martin was the Chief of Cardiology from 1997 to 2009 and Senior Vice President for the Center for Heart Lung and Kidney Disease from 1999 to 2015. He founded the Children's National Heart Institute in 2004. He was named the C. Richard Beyda Professor of Cardiology in 2007. Dr. Martin was educated at Syracuse University and the State University of New York,

Upstate School of Medicine. After a residency at Brown University, he received his training in pediatric cardiology at the Cardiovascular Research Institute at the University of California, San Francisco. He has published over 150 peer reviewed manuscripts, book chapters and invited publications and has presented abstracts at over 125 meetings. Dr. Martin is an invited lecturer who has traveled to over 200 meetings, hospitals and universities within the USA as well as around the world. Dr. Martin is an advocate for congenital heart disease efforts nationally and internationally. He played integral roles in the development of CCHD Screening and the Sub-Board of Adult Congenital HeartHe has served in a consultant role within the United States as well as in South America, Asia, and the Middle East.



# Michele Mietus-Snyder, M.D.

Dr. Mietus-Snyder is co-director of the Obesity Institute after practicing in the UCSF Departments of Pediatric Medicine and Physiological Nursing. She received her undergraduate and M.D. degrees from the University of California, San Diego and did her pediatric residency and cardiology fellowship training at Children's Hospital Boston. Her interest in the molecular pathways responsible for early preclinical atherogenesis led her to pursue basic science research in lipoprotein gene regulation

at Harvard and at the Gladstone Institute for Cardiovascular Disease Research. Her studies of redox-sensitive genes important in early heart disease impressed upon her how many cardiovascular risk factors function via common metabolic pathways that promote vascular oxidative stress, including dyslipidemia, unhealthy diet, sedentary lifestyle, hypertension, and psychological stress. Her clinical practice focuses on preventive cardiology.



#### Jeffrey P. Moak, M.D.

Dr. Moak has been in practice for over 30 years, joining the staff here in 1992 after serving as an attending at Texas Children's Hospital. He received his training in pediatric cardiology at the Columbia University College of Physicians followed by a fellowship in cellular electrophysiology at the same institution. He is board certified in pediatric cardiology and a fellow of the American Academy of Pediatrics and the

American College of Cardiology. Dr. Moak's primary interests include sudden cardiac death, neurally mediated cardiac syncope, and pacemakers and cardiac function. His clinical practice includes inpatient and outpatient electrophysiology as well as the full spectrum of interventional electrophysiologic procedures.



## Ricardo Munoz, M.D.

Dr. Ricardo Munoz joined Children's National in 2018 as the Chief of the Division of Cardiac Intensive Care, Co-Director of the Children's National Heart Institute, and Executive Director of Telemedicine Services. Dr. Munoz is a highly accomplished pediatric cardiologist and critical care physician who has led major programs in cardiac intensive care and has distinguished himself as an international leader in telehealth. He was the Chief, Cardiac Intensive Care Division at the Children's Hospital of

Pittsburgh where he also served as Medical Director for Global Business and Telemedicine and Director of International Affairs. Dr. Munoz has also developed multiple telemedicine programs

between the Children's Hospital of Pittsburgh and other intensive care units, cancer programs, and pediatric services in the US and abroad. He is the primary editor and co-author of multiple textbooks and award-winning handbooks in pediatric cardiac intensive care, including Spanish language editions.



# Jai K. Nahar, M.D.

Dr. Nahar joined the division of cardiology in July 2006 after completing his training at Children's National Medical Center. After his pediatric postgraduate training in India, he finished his pediatric residency at Sinai Hospital of Baltimore. Prior to joining the cardiology fellowship, Dr. Nahar worked as a primary care pediatrician in Hagerstown, MD. His primary focus is outpatient cardiology. Dr. Nahar recently obtained his Master's of Business Administration from Johns Hopkins. His interests include artificial

intelligence and health care economics.



## Robin Puente, M.D.

Dr. Puente joined our cardiac intensive care unit team in 2018 after practicing at Children's Medical Center Dallas/University of Texas Southwest. Dr. Puente completed medical school at Washington University of St. Louis School of Medicine, where she also completed her pediatric residency. She then completed her pediatric critical care fellowship at University of Texas Southwestern, where she also served as chief fellow. She remained in Dallas for her pediatric cardiology fellowship. Her clinical interests include myocardial dysfunction and recovery in pediatric patients

with heart failure and she conducts basic science research at the NIH. Dr. Puente is the director of our Cardiac Critical Care senior clinical fellowship.



## Craig A. Sable, M.D.

Dr. Sable is the Associate Chief of the Division of Cardiology and Director of the Echocardiography Laboratory. He received his undergraduate education at Northwestern University, his medical education at the University of Chicago, and his pediatric residency and pediatric cardiology fellowship training at Children's National. He is chairman of the Sub-Board of Pediatric Cardiology of the American Academy of Pediatrics, past chairman of the Cardiovascular Disease in the Young section of the

American Heart Association, and is an editor of the journal *Pediatric Cardiology*. Dr. Sable's primary interests include telemedicine, advanced echocardiography, and rheumatic heart disease. He has a strong interest in international medicine, having lead over twenty medical missions to Africa to establish a sustainable congenital heart program in Uganda and is co-investigator on the AHA Strategically Focused Research Network RHD grant. Dr. Sable directs the fellows' weekly echocardiography conference.



#### Elizabeth Sherwin, M.D.

Dr. Sherwin is the Director of Electrophysiology. Prior to joining Children's National, Dr. Sherwin was an attending pediatric electrophysiologist at British Columbia Children's Hospital in Vancouver, Canada. Originally from Virginia, Dr. Sherwin received her medical degree from Medical College of Virginia and completed the combined Boston Children's and Boston University pediatrics residency. Dr. Sherwin then completed a pediatric cardiology fellowship at Boston Children's as well as an

advanced electrophysiology fellowship. Dr. Sherwin was awarded the 2016 Jodi I. Pike Award for Excellence in Teaching from the cardiology fellows. She has a special interest in inherited arrhythmias.



# Uyen Truong, M.D.

Dr. Truong returned to Children's National in 2023 as our Director of Cardiac Magnetic Resonance Imaging. Dr. Truong is no stranger to Children's National, having completed her cardiology fellowship here in 2009 after competing her pediatric residency at the University of California – Davis. Following her first stint at Children's National, Dr. Truong completed a research fellowship at Oregon Health Sciences University followed by advanced imaging training at Stanford University. Prior to

rejoining our team, Dr. Truong served on the faculty at Children's Hospital of Colorado and Virginia Commonwealth University. Dr. Truong's clinical and academic interests include the utility of cardiac MRI in as a biomarker in patients with pulmonary hypertension.



# Michael Tsifansy, M.D.

Dr. Tsifansky serves as a cardiac intensivist, a pulmonary hypertension specialist, and as director of our newly-established lung transplantation program. He earned his undergraduate degree from the University of Chicago and his medical degree from the Sackler School of Medicine at Tel Aviv University in Israel. He completed his residency in pediatrics at the University of Minnesota. Dr. Tsifansky then continued

his training with fellowships in pediatric pulmonology and critical care medicine at Massachusetts General Hospital and in pediatric cardiac critical care medicine at the Children's Hospital of Pittsburgh. Dr. Tsifansky is board certified in pediatrics, pediatric pulmonology and pediatric critical care medicine. He is a member of the attending staff in the Children's National Hospital Cardiac Intensive Care Unit and in the Division of Pulmonology and Sleep Medicine. His interests include pulmonary hypertension, lung transplantation, cardiac critical care, cardiorespiratory failure and interstitial lung disease.



# Michelle Udine, M.D.

Dr. Udine joined the faculty at Children's National in 2022 after completing her cardiology and advanced imaging fellowships as a part of our team. This is her second stint in DC after graduating college from George Washington University. She subsequently received her medical degree from Robert Wood Johnson Medical School followed by residency and chief residency at the University of Alabama. Dr. Udine is a key member of our imaging team with clinical practice encompassing

transthoracic, transesophageal, and fetal echocardiography as well as cardiac CT and MRI.



#### Ravi Vegulla, M.B.B.S.

Dr. Vegulla joined our cardiac advanced imaging team in 2022. After completing his early medical training in India, he moved to the United States and completed residencies at Rutgers and Oregon Health and Sciences University followed by cardiology and advanced cardiac imaging training at UT Southwestern/Children's Medical Center Dallas. Dr. Vegulla's clinical and research interests are primarily in

the field of novel and emerging advanced cardiac imaging techniques primarily utilizing MRI and CT. He has performed prior work in interventional CMR, 3D heart modelling, and interventional overlay techniques.



# Gilbert Wernovsky, M.D.

Dr. Wernovsky an internationally renowned pediatric cardiologist and cardiac intensivist. As a senior consultant in cardiology, he serves as an attending physician in the Cardiac ICU and on our inpatient cardiology service. Dr. Wernovsky's clinical interests include the inpatient care of infants with critical congenital heart disease (CHD) and mechanical support of the failing circulation. For the past 30 years, he has been particularly interested in the long-term functional outcomes following surgery for complex CHD, particularly transposition of the great arteries, tetralogy of Fallot

and single ventricle defects such as hypoplastic left heart syndrome. His goal is to identify modifiable factors in the care of children with CHD to improve overall outcomes, longevity, school performance, and quality of life. He is also a founding member of the Pediatric Cardiac Intensive Care Society and International Society for Pediatric Mechanical Cardiopulmonary Support, and was the Co-Chair of the Perioperative Working Group of the Pediatric Heart Network, NIH. He is the co-chair of the 2023 World Congress of Pediatric Cardiology and Cardiac Surgery, that was just held in Washington, DC.



## David L. Wessel, M.D.

Dr. Wessel joined Children's National in July 2007 and now serves as Chief Medical Officer. Dr. Wessel was educated and trained at Oxford, Yale, and Harvard and is board certified in anesthesiology, pediatrics, pediatric cardiology, and pediatric critical care medicine. He is regarded by many as one of the fathers of pediatric cardiac critical care. He was the founding president of the Pediatric Cardiac Intensive Care Society, an international society which honored him with its 2004 award for

contributions to improving children's heart health. While in Boston, he designed a training program for pediatric cardiac intensive care and trained numerous fellows and staff who are now leaders in that field throughout the country.



#### Gregory Yurasek, M.D.

Dr. Yurasek joined our Cardiac Intensive Care Unit team in 2015. He is a graduate of the College of the Holy Cross and the Columbia University College of Physicians and Surgeons. Subsequently, Dr. Yurasek completed his pediatric residency and cardiology fellowship at Children's Hospital of Boston. Subsequently, Dr. Yurasek completed a pediatric critical care fellowship at Massachusetts General Hospital. He has been recognized for his teaching throughout his training and has won numerous awards, including the Fellow Teacher of the Year while at Massachusetts General

Hospital. He runs our simulation program in the cardiac intensive care unit and helps coordinate the orientation of our fellows to the CICU. Dr. Yurasek was awarded the 2019 Jodi I. Pike Award for Excellence in Teaching from the cardiology fellows.

# DIVISION OF CARDIOVASCULAR SURGERY FACULTY ROSTER



## Yves d'Udekem, M.D., Ph.D.

Dr. d'Udekem joined Children's National Hospital as the Chief of Cardiovascular Surgery and Co-Director of the Children's National Heart Institute. Dr. d'Udekem is Belgian-born with Canadian and Australian citizenship and received his early training in Belgium and Toronto. As an attending cardiac surgeon in Belgium, he operated on both adults and children with congenital heart disease. Dr. d'Udekem then worked with internationally recognized heart surgeon Marc de Laval, M.D., FRCS, and others in London to train in congenital heart surgery at the Great Ormond Street Hospital

for Children. From there, he was recruited to The Royal Children's Hospital in Melbourne, Australia, an institution that has been a leader in advancing the field of congenital heart disease. In Melbourne, Dr. d'Udekem built an outstanding reputation for clinical excellence and an exceptional academic career. He has over 300 publications and is highly cited and respected. Dr. d'Udekem obtained more than \$7 million in grant funding over the past five years as the creator and leader of the Fontan Registry.



## Manan Desai, M.D.

Dr. Desai rejoined the Children's National Hospital team in 2022 after having served as an instructor and cardiovascular surgeon at Lucille Packard Children's Hospital at Stanford. Dr. Desai received his medical degree from the All India Institute of Medical Sciences in Delhi in 2013. After completing his post-graduate surgical and cardiac surgical training in India, he completed his pediatric cardiac surgical fellowship at Children's National.



## Aybala Tongut, M.D.

Dr. Tongut completed her education and surgical training in Turkey. She joined the cardiovascular surgery team at Children's National as a fellow in 2019 and joined the CV surgery faculty in July of 2022. Dr. Tongut has received additional training in lung transplantation and leads the surgical component of that program.



## Can Yerebakan, M.D.

Dr. Yerebakan is the Associate Chief of Cardiovascular Surgery. He earned his medical degree from Albert-Ludwigs University in Freiburg, Germany. He completed his residency in cardiac surgery at two premier centers in Germany followed by a fellowship in pediatric cardiac surgery at Children's National. Dr. Yerebakan specializes in hybrid treatment of hypoplastic left heart syndrome (HLHS) and he is internationally recognized for his contributions to the field of congenital cardiac

surgery. Dr. Yerebakan returned to Children's National in 2017 from the prestigious Pediatric Heart Center Giessen in Germany, where he served as cardiac surgeon and associate professor of Cardiac Surgery at the Justus-Liebig-University. He has authored more than 70 peer-reviewed scientific papers in three different languages and has given numerous presentations on congenital cardiac surgery around the world. In addition to several awards for his research, Dr. Yerebakan was recognized by the European Association of Cardiothoracic Surgery with a prestigious award for his work on experimental animal models for congenital heart surgery in 2009. His research interests also include alternative treatment for dilated cardiomyopathy in children.

# **Cardiac Anesthesia Attending Staff**

Andrew Waberski, M.D., *Director* Anna Brown, M.D. Jeremy Deer, M.D. Chinwe Unegbu, M.D. Dan Vuong, M.D.

# **Advanced Practice Cardiac Nurses and Nurse Practitioners**

Rebecca Freeman	Adult Congenital Heart Disease	Mary-Katherine Battertor	Cardiovascular Surgery
Rachel Steury	Adult Congenital Heart Disease	Allie Rippe	Cardiovascular Surgery
Marguerite Wevers	Adult Congenital Heart Disease	? Aileen Walsh	Cardiovascular Surgery
Melissa Dazo	Advanced Cardiac Therapies	Jennifer Meyer	Cardiovascular Surgery
Colleen Iler	Advanced Cardiac Therapies	Charles Fleming	Nurse Navigator
Laura Norris	Advanced Cardiac Therapies	Sheila Bostelman	Pulmonary Hypertension
Tarika Dalmia	Outpt Cardiology & Consults	Vicki Freedenberg	Electrophysiology
Melissa Jones	Cardiac Intensive Care Unit	Beth Jarosz	Electrophysiology
Christine Riley	Cardiac Intensive Care Unit	Carolyn Ramwell	Electrophysiology
Lauren Daniels	Cardiac Intensive Care Unit	Kathleen Kalinger	Single Ventricle Program
Jennifer Rowe	Cardiac Intensive Care Unit	Elizabeth Moynihan	Single Ventricle Program
Sarah Wilson	Cardiac Intensive Care Unit	Sarah Perl	Cardiac Cath Lab

# 2023-2024 Children's National Cardiology Fellows

Third year fellows

Nicole Behm, M.D. Residency Naval Medical Center Portsmouth/Walter Reed National

Military Medical Center

Medical School Uniformed Services University of the Health Sciences

College University of Colorado

Kelsey Brown, M.D. Residency Children's Hospital of the King's Daughters

Medical School/ University of Missouri- Kansas City (combined B.A./M.D.)

College

Kelsey McLean, M.D. Residency University of California - Davis

Medical School University of Texas Health Science Center at San Antonio

College Texas State University

Vanessa Ogueri, M.D. Residency Hasbro Children's Hospital - Brown University

Medical School New York Medical College

College Sophie Davis School of Biomedical Education

Christine Sawda, M.D. Residency University of Virginia

Medical School Medical University of South Carolina

College University of Virginia

Second year fellows

Elise Stave, M.D. Residency Children's National Hospital

College Massachusetts Institute of Technology

John Sullivan, M.D. Residency Yale-New Haven Children's Hospital

Medical School University of Massachusetts

College University of Rochester

Vasu Suresh Kumar, M.D. Residency Hasbro Children's Hospital - Brown University

Medical School University of Arkansas

College University of Arkansas

Victoria Surma, M.D., M.S. Fellowship Pediatric critical care, Johns Hopkins

Residency University of Virginia
Medical School Temple University
College University of Maryland

First year fellows

Kirby Gilpin, M.B.B.S.

Tommy Casto, M.D. Residency University of Virginia

Medical School West Virginia University
College West Virginia University
Residency Dartmouth University

Medical School St. George's, London, UK

College University of California – Santa Barbara

Michael He, M.D. Residency Yale University

Medical School Texas Tech University Health Sciences – El Paso

College Rice University

Elise Reddington, D.O. Residency National Capital Consortium at Walter Reed

Medical School New England College of Osteopathic Medicine

College Boston University

Christina Yang, M.D. Residency Seattle Children's Hospital/University of Washington

Medical School University of Connecticut
College University of Connecticut





Please let us know if we can answer any questions about life in DC and at Children's National!

Name	Year	E-mail
Nicole Behm	3 <sup>rd</sup>	nbehm2@childrensnational.org
Kelsey Brown	3 <sup>rd</sup>	kbrown6@childrensnational.org
Kelsey McLean	3 <sup>rd</sup>	kmclean@childrensnational.org
Vanessa Ogueri	3 <sup>rd</sup>	vogueri@childrensnational.org
Christine Sawda	3 <sup>rd</sup>	csawda@childrensnational.org
Elise Stave	2 <sup>nd</sup>	estave@childrensnational.org
John Sullivan	2 <sup>nd</sup>	jsullivan1@childrensnational.org
Vasu Suresh Kumar	2 <sup>nd</sup>	vsureshkum@childrensnational.org
Victoria Surma	2 <sup>nd</sup>	vsurma@childrensnational.org
Tommy Casto	1 <sup>st</sup>	tcasto@childrensnational.org
Kirby Gilpin	1 <sup>st</sup>	kgilpin@childrensnational.org
Michael He	1 <sup>st</sup>	mhe1@childrensnational.org
Elise Reddington	1 <sup>st</sup>	ereddingto@childrensnational.org
Christina Yang	1 <sup>st</sup>	cyang1@childrensnational.org

