

Date of Preparation:

Signature

James M. Galas, M.D.
Assistant Professor of Pediatrics

OFFICE ADDRESS

Children's Hospital of Michigan
Division of Cardiology
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EDUCATION

DATES

Graduate:

State University of New York at Buffalo School of Medicine &
Biomedical Sciences
Buffalo, NY

August 1997 – May 2001

Baccalaureate:

Niagara University
Niagara University, NY

August 1993 – May 1997

POSTGRADUATE TRAINING

Fellowship in pediatric cardiology:

University of Michigan Congenital Heart Center
Ann Arbor, MI

July 2005 – June 2008

Pediatric Residency:

University at Buffalo –Women and Children's Hospital of Buffalo
Buffalo, NY

July 2001 – June 2004

FACULTY APPOINTMENTS

<i>Clinical Assistant Professor</i> Central Michigan University, Department of Pediatrics College of Medicine Mt Pleasant, MI	July 1, 2019 - Present
<i>Assistant Professor, Clinician Educator</i> Wayne State University , Department of Pediatrics School of Medicine Detroit, MI	March 2013 – March 2020
<i>Clinical Lecturer</i> University of Michigan, Department of Pediatrics Ann Arbor, MI	July 2008 – July 2009
<i>Assistant Professor of Clinical Pediatrics</i> State University of New York at Buffalo School of Medicine and Biomedical Sciences , Department of Pediatrics Buffalo, NY	July 2004 – June 2005

HOSPITAL OR OTHER PROFESSIONAL APPOINTMENTS

Pediatric cardiologist, Children’s Hospital of Michigan Detroit, MI	October 2012 – Present
Pediatric cardiology consultant, Hurley Hospital Flint, MI	2014 - 2018
Pediatric cardiology consultant, Henry Ford Hospital Detroit, MI	2013 - Present
Pediatric cardiology consultant, Ascension Providence Rochester Hospital Rochester Hills, MI	2013 - Present

Pediatric cardiology consultant, Sinai Grace Hospital Detroit MI	2013 - Present
Pediatric cardiology consultant, St. Joseph Mercy (Oakland) Hospi Pontiac, MI	2013 - Present
Pediatric cardiology consultant, Ascension Providence Southfield Hospital Southfield, MI	2013 - 2018
Pediatric cardiology consultant, Tampa General Hospital Tampa, FL	July 2009 - October, 2012
Pediatric cardiology consultant, University Community Hospital Tampa, FL	July 2009 - October, 2012
Pediatric cardiology consultant, St. Joseph's Children's Hospital Tampa, FL	July 2009 - October, 2012
Pediatric cardiology consultant, Bayfront Baby Place, Bayfront He ST. Petersburg, FL	January 2010 - October, 2012
Pediatric cardiologist All Children's Hospital – Heart Institute St. Petersburg, FL	July 2009 - October, 2012
Pediatric cardiology consultant, Sparrow Hospital Lansing, MI	July 2008 – July 2009
Pediatric cardiologist University of Michigan Congenital Heart Center Ann Arbor, MI	July 2008 – July 2009
Pediatric Hospitalist University Pediatric Associates Women and Children's Hospital of Buffalo, Buffalo, NY	July 2004 – June 2005

MAJOR PROFESSIONAL SOCIETIES

American Academy of Pediatrics

Fellow

2010 - present

Diplomate

2004 – present

American Society of Echocardiography

2008 – present

Society of Pediatric Echocardiography

2008 – present

HONORS/AWARDS

College Teaching Award

November 2018

Wayne State University School of Medicine

Detroit, MI

Faculty Teaching Award

May 2005

State University of New York at Buffalo School of
Medicine and Biomedical Sciences

Buffalo, NY

House Officer Award for Excellence in Teaching

May 2002

State University of New York at Buffalo School of
Medicine and Biomedical Sciences

Buffalo, NY

SERVICE

Department / Division

Committee Activities:

Central Michigan University

Member, Scholarship Oversight Committee for Pediatric Cardiology Fell July 1, 2019 - Present
 Role: Meet with pediatric cardiology fellows to review their involvement progress in research activities to give feedback and suggestions for improvement of scholarly work, as well as ensure that fellows are on pace to complete requirements for scholarly activity during fellowship and obtain eligibility pediatric cardiology board certification.

Wayne State University

Member, Scholarship Oversight Committee for Pediatric Cardiology Fellows 2012 – March 2020

Role: Meet with pediatric cardiology fellows to review their involvement progress in research activities to give feedback and suggestions for improvement of scholarly work, as well as ensure that fellows are on pace to complete requirements for scholarly activity during fellowship and obtain eligibility pediatric cardiology board certification.

Children's Hospital of Michigan

Pediatric Cardiac Intensive Care Unit Planning Committee 2016

Division of Pediatric Cardiology

Member, Search Committee for Division Chief, Pediatric Cardiology 2019

Fetal Echocardiography Meetings 2019 - Present

Role: Established forum for at least quarterly meetings of fetal echocardiography attendings to discuss quality improvement, program expansion and potential research projects.

Outreach Clinic Planning at Mott Children's Health Center 2018- Present

(in conjunction with University Pediatrics)

*Role: Established and attempt to expand pediatric cardiology services in
MI working alongside the division chief with the Mott Children's Health C*

Member, Clinical Quality Improvement Committee

2018 - Present

Role: Identify areas in both the division and other divisions who care for pediatric cardiology patients which may benefit from systematic quality improvement efforts. Reviews usually culminate in an educational presentation centered on process improvement. Also, meet with pediatric cardiology fellows to ensure they complete their requirements for quality improvement activity during fellowship.

Divisional scheduling committee

2016 - Present

Role: Faculty daily clinical activity scheduler. Build activity schedule taking into account establishing continuity of providers at outreach clinics, matching professional strengths with appropriate clinical responsibilities, and taking into account personal requests. Also serve as the liaison between the division and Qgen scheduling software company.

Pediatric cardiology fellowship candidate interviews

2012 - Present

Clinical Service:

Children's Hospital of Michigan, Detroit, MI

Faculty pediatric cardiologist, Children's Hospital of Michigan

Four to six weeks per year of inpatient cardiology service, treating pediatric and adult patients with congenital and acquired heart disease. 2013 - Present

Cardiovascular Surgery ICU cardiology consultant, Children's Hospital of Michigan 2015 - Present

Two to six weeks per year; contribute to the evaluation and immediate postoperative management of cardiac surgical patients. Other members of the multidisciplinary team include cardiovascular surgeons, cardiovascular radiologists, and pediatric intensivists.

Attending, Pediatric cardiology clinic, Children's Hospital of Michigan 2013 - Present

Four to six days per month, evaluate children for potential congenital or acquired heart disease and provide ongoing care.

Attending, Fetal echocardiography clinic, Children's Hospital of Michigan 2012 - Present

Two to four days per month, perform prenatal echocardiographic evaluations of fetuses to identify congenital heart or acquired heart disease, including cardiac arrhythmias after which consultation is provided to the expectant mother and family members in attendance regarding pre and postnatal cardiac aspects of care.

Attending, Echocardiography laboratory, Children's Hospital of Michigan 2012 - Present

Six to eight days per month, interpret transthoracic echocardiograms performed in the inpatient and outpatient settings as well as perform and interpret transesophageal echocardiograms, often in conjunction with cardiac surgical and interventional cardiac catheterization.

All Children's Hospital, St. Petersburg, FL

Faculty pediatric cardiologist, All Children's Hospital 2009 - 2012
Ten weeks per year of inpatient cardiology consultant service, treating pediatric and adult patients with congenital and acquired heart disease.

Attending, Pediatric cardiology clinic, All Children's Hospital 2009 - 2012
Ten to twenty days per month, evaluate children for potential congenital and acquired heart disease and provide ongoing care.

Attending, Fetal echocardiography clinic, All Children's Hospital 2009 - 2012
Two to four days per month, perform prenatal echocardiographic evaluation of fetuses to identify congenital heart or acquired heart disease, including cardiac arrhythmias after which consultation is provided to the expectant mother and family members in attendance regarding pre and postnatal cardiac aspects of care.

Attending, Echocardiography laboratory, All Children's Hospital 2009 - 2012
Two to eight days per month, interpret transthoracic echocardiograms performed in the inpatient and outpatient settings as well as perform and interpret transesophageal echocardiograms, often in conjunction with cardiac surgery or interventional cardiac catheterization.

University of Michigan Congenital Heart Center

Faculty pediatric cardiologist, University of Michigan July 2008 – July 2009
Four weeks per year of inpatient cardiology service, treating pediatric and adult patients with congenital and acquired heart disease.

Attending, Pediatric cardiology clinic, Sparrow Hospital July 2008 – July 2009
Eight days per month, evaluate children for potential congenital or acquired heart disease and provide ongoing care.

Attending, Fetal echocardiography clinic, Sparrow Hospital July 2008 – July 2009
Two to four days per month, perform prenatal echocardiographic evaluation of fetuses to identify congenital heart or acquired heart disease, including cardiac arrhythmias after which consultation is provided to the expectant mother and family members in attendance regarding pre and postnatal cardiac aspects of care.

Women and Children's Hospital of Buffalo, Buffalo, NY

Attending, Pediatric Hospitalist

Daily care of inpatient pediatrics service, working in conjunction with in July 2004 – July 2005 teams including pediatric residents and medical students.

Attending, General pediatric clinic, Women and Children's Hospital of Buffalo July 2004 – July 2005

Four to six days per month, evaluate children for potential congenital or acquired heart disease and provide ongoing care.

Attending, Pediatric emergency department – fast track area, Women and Children's Hospital of Buffalo July – December 2004

One to four times per month, provided care to children with non-serious problems in the emergency department.

Wayne State School of Medicine

Faculty Advisor, Pediatric Medical Student Mentoring Program 2017

Role: Academic mentoring of third and fourth year medical students during their rotation, reviewing aspects of history taking and evaluation of various pediatric diseases.

Scholarly Service

Progress in Pediatric Cardiology	December 2015 -
Role: Manuscript reviewer for peer reviewed journal	Present

Professional Service:

Michigan Alliance for Prevention of Sudden Cardiac Death of the Young 2013 - Present

Group including pediatric cardiologists, ED physicians and nurses from DMC, U of M, and Beaumont; AED sales reps, parents of children who have survived sudden cardiac arrest, parents who have lost children to cardiac arrest, educators, school nurses, members of the Michigan High School Athletic Association, and members from the Michigan Department of Health and Human Services who share the goal of preventing sudden cardiac death in the young. The group meets in Lansing a least twice a year and convenes via phone or internet conference meetings once monthly.

MAPSCDY Subcommittees

Recommendations on Return to Play Subcommittee	June 2020
Cardiac Emergency Response Program Survey Workgroup	2016 – Present
CPR/AED Drill Week Committee	2016 - 2017

Community Service:

Deerfield Elementary School Kids Heart Challenge <i>CPR/AED education booth for students and parents</i>	February 7, 2020
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Detroit CPR in Schools training coalition program <i>Group of community members including first responders, physicians, and members of the Detroit Public School System. The eventual goal is for DPS to meet the criteria for being MI HEART Safe schools</i>	December 12, 2019
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Detroit Public Schools <i>Sudden Cardiac Arrest in the Young: Making Strides Towards Prevention. Lecture to Detroit area School Nurses.</i>	November 5, 2019
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Troy Soccer Club November 10, 2015
Addressing the Risk of Sudden Cardiac Death in Young Athletes.

Children's Hospital of Michigan Public Relations Department February 2103
Sudden Cardiac Arrest in the Young Interview

Detroit Public Schools 2013
*Sudden Cardiac Arrest in the Young: Raising Awareness and Making Str
Towards Prevention. Lecture to Detroit area School Faculty.*

TEACHING

Pediatric cardiology fellows – Children’s Hospital of Michigan

Clinical supervision and bedside instructions for pediatric cardiology fellows rotating through Inpatient Cardiology Service 2013 - Present

Clinical ambulatory instruction for pediatric cardiology fellows in the outpatient pediatric cardiology clinic 2013 - Present

Echo Boot Camp 2013,2015-2016,2019-
First year pediatric cardiology fellow orientation to echocardiography. Provides didactic lectures and training regarding beginning concepts of congenital echocardiography. P1 020

Clinical and procedural instruction for fellows rotating through the echocardiography laboratory 2012 - Present
Instruction is provided in transthoracic and transesophageal echocardiography techniques and interpretation with ongoing feedback of fellow performance throughout the rotation.

Clinical and procedural instruction for fellows rotating through the fetal echocardiography clinic 2012 - Present
Instruction is provided in fetal echocardiography techniques and interpretation with ongoing feedback of fellow performance throughout the rotation, which include maternal fetal medicine fellows and third year cardiology fellows

Didactic lectures for fellows 2012 - Present
Five to ten didactic lectures are given per year to pediatric cardiology fellows on various topics including congenital heart disease, acquired heart disease, pathology reviews, quality improvement, and pediatric echocardiography

Board review sessions 2012 - Present
Proctoring board review sessions with fellows in a question answer format to prepare for pediatric cardiology boards.

Group discussion during monthly pediatric cardiology core lecture 2012 - Present

Group discussion during pediatric monthly pediatric cardiology journal c 2012 - Present

Group discussion during cardiology clinical/ catheterization case of the r 2012 - Present conference

Group discussion during weekly combined cardiology / cardiothoracic su 2012 - Present conference (1-3 hours per week)

Group discussion during echocardiography fellow cases (1-4 hours per m 2012 - Present

Pediatric cardiology fellows – University of Michigan

Clinical supervision and bedside instructions for pediatric cardiology fellow July 2008 – July 2009 rotating through Inpatient Cardiology and Consult Services

Pediatric Residents– Children’s Hospital of Michigan

Annual pediatrics board review 2013-2015, 2018 - 201
Presented Infectious and Post-infectious Diseases and Systemic Diseases
lecture to 3rd year pediatric residents

Clinical supervision and bedside instructions for pediatric residents rotating 2013 - Present through Inpatient Cardiology Service. Teaching sessions of 20 hours a week 4 – 6 weeks a year. This includes both bedside teaching and didactic lectures given to residents during this time.

Clinical ambulatory instruction for pediatric residents in the outpatient 2013 - Present pediatric cardiology clinic

Pediatric Residents– All Children’s Hospital

Clinical supervision and bedside instructions when interacting with pediatric residents while consulting on inpatients. This mostly took the form of bedside teaching.

Pediatric Residents – University of Michigan

Clinical supervision and bedside instructions for pediatric residents rotating July 2008 – July 2009 through Inpatient Cardiology Service (4 weeks per year)

Pediatric Residents – Women and Children’s Hospital of Buffalo

Clinical supervision and bedside instructions for pediatric residents on the July 2004 – July 2005 inpatient services while attending as pediatric hospitalist.

Clinical ambulatory instruction for pediatric residents in the outpatient July 2004 – July 2005 pediatrics clinic

Medical Students – Wayne State University School of Medicine

MD2 Cardiovascular Pathology Valvular Heart Disease Lecture 2013 - Present

Clinical ambulatory instruction for pediatric residents in the outpatient 2013 - Present
pediatric cardiology clinic

MD2 Cardiovascular Pathophysiology Clinical Case Review 2013

Harvey Manikin Demonstration 2013 - 2014
Teaching cardiac exam to second year medical students

**Medical Students – State University of New York School of Medicine
Biomedical Sciences**

USMLE Pediatric review session

November 9, 2004

Clinical supervision and bedside instructions for medical students on the inpatient services while attending as pediatric hospitalist. July 2004 – July 2005

Clinical ambulatory instruction for medical students in the outpatient ge pediatrics clinic July 2004 – July 2005

Yearly didactic lectures given to third year medical students during their clerkship in pediatrics 2002 - 2005

Faculty (CME)

Participant in the discussion during weekly combined Cardiology / Cardiothoracic Surgery conferences (1 – 3 hours per week)

2012 - Present

Divisional echocardiography lectures series
Presentation of 3 topics per year

2013 - Present

Mentoring

Academic / Research Mentor for Cardiology Fellows

Christopher Herron, DO 2020 - Present

Quality Improvement project: ECG Acquisition Education to Improve R Times

Currently third year pediatric cardiology fellow at Children's Hospital of Michigan, Detroit

Huma Rasheed, MD 2020 - Present

Research: Initial Digoxin Dosing in Management of Fetal Supraventricular Tachycardia

Currently second year pediatric cardiology fellow at Children's Hospital of Michigan, Detroit

Amrit Misra MD 2019 - 2021

Research: Primary care pediatrics provider practices in assessing for risk sudden cardiac arrest

Advocacy: Detroit Public Schools CPR-AED MI Heart Safe Initiative

Currently Adult congenital pediatric cardiology fellow at Boston Children's Hospital

Justino Zoma MD 2019 - 2021

Quality Improvement project: Improving Accuracy of blood pressure measurements in an outpatient pediatric cardiology clinic

Currently faculty in Division of Pediatric Cardiology, St John's Hospital,

Ryan Hallas DO 2018 - 2021

Currently private practice pediatric cardiology, Kalamazoo, Michigan

Rachel Taylor MD 2017 - 2020

Quality Improvement project: Improving the accuracy of BSA in reporting echocardiographic measurements in Kawasaki Disease

Currently faculty in Division of Pediatric Cardiology, Children's Hospital Omaha, Nebraska

Nathaniel Robbins MD 2019

Quality Improvement project: Implementing pediatric hypertension guideline in an outpatient pediatric cardiology clinic

Currently pediatric cardiology attending at Rainbow Babies and Children's Hospital, Cleveland

Jyothsna Akam-Venkata MBBS 2018 - 2019

Published: *Is the prechemotherapy left ventricular function normal?* in Echocardiography, *Left ventricle segmental function in childhood cancer survivors using speckle-tracking echocardiography* in Cardiology in the and *Prechemotherapy subclinical left ventricular dysfunction: Do we know the mechanism?* in Echocardiography Currently pediatric cardiology attending at University of Mississippi Medical Center, Jackson

Lauren Sarno MD 2015 - 2018

Research: AED and Sudden Cardiac Death Prevention in Schools, Sudden Cardiac Death Pediatrician Survey

Currently Pediatric cardiology consultant, Greenville, North Carolina

Stuart Covi MD 2014 - 2017

Currently faculty in Division of Pediatric Cardiology, St John's Hospital,

Raya Safa MD 2013 - 2016

Currently cardiac intensivist, Children's Hospital of Michigan, Detroit

Academic / Research Mentor for Non-Pediatric Cardiology Fellows

Rebecca Levine –Schilling DO 2012 - 2014

Research: Management of a Heart Murmur in the Asymptomatic Newborn using a Standardized Approach

I Mentored Dr. Schilling during her neonatology fellowship at University of South Florida. During her fellowship, she created and now teaches a new specific cardiac curriculum rotation for pediatric interns.

Currently medical director of the neonatal intensive care unit (NICU) at St. Mary's Memorial Hospital in affiliation with Johns Hopkins All Children's Medical Center Fetal & Neonatal Institute

Academic Mentor for Medical Students

Amanda Martin – Medical student during third year pediatric rotation 2017

Academic Mentor for Pediatric Echsonographers

Patricia Cruz – Newly graduated Physician Assistant from Eastern Michigan University

Quality Improvement presentations: Doppler echosonography, vascular s

Academic Mentor / Career Guidance for Undergraduate Students

2017 - 2020

Dylan Rushton –during senior year at Novi High School and while major Bioengineering at the University of Michigan

Autumn Hoerauf – Human Biology Major during junior year at Michigan 2018 University

Course Development

Pediatric Cardiology Fellow Mock Code Curriculum 2019 - Present

Role: Develop curriculum, obtain mock code supplies (mock crash cart, defibrillator, manikin, airway supplies), plan and run pediatric mock codes with the pediatric cardiology fellows. Mock codes are run roughly quarterly with emphasis on cardiac emergencies.

PUBLICATIONS

Journal impact factor obtain from journal website

Citation counts obtained from Google Scholar

Peer-Reviewed Publications

*Trainee mentored by James Galas, MD

Original Works

1. Akam-Venkata J*, Kadiu G, Galas J, Aggarwal S. *Pediatric malignancies: Is the prechemotherapy left ventricular function normal?* Echocardiography. 2019 Sep;36(9):1727-1735.

Impact factor: 1.393, Citations: 2. PMID: 31471982.

Role: manuscript writing

2. Akam-Venkata J*, Kadiu G, Galas J, Lipshultz SE, Aggarwal S. *Left ventricle segmental function in childhood cancer survivors using speckle-tracking echocardiography.* Cardiol Young. 2019 Dec; 29(12):1494-1500

Impact factor: 1.000 , PMID: 31771663.

Role: manuscript writing

Case Reports

1. Kawasaki Y, Dentel JN, Walters HL, Galas JM, Kobayashi D. Repair of a mixed form of supracardiac total anomalous pulmonary venous connection. Cardiol Young. 2020 Nov 3:1-3.

2. Galas JM, van der Velde ME, Chiravuri SD, Farley F, Parra D, Ensing GJ. *Echocardiographic diagnosis of right ventricular inflow compression associated with pectus excavatum during spinal fusion in prone position.* Congenit Heart Dis. 2009 May-Jun;4(3):193-5. doi: 10.1111/j.1747-0803.2008.00231.x.

Impact factor: 1.663, Citations: 7. PMID: 19489950.

Role: first author and manuscript writing

Commentaries

1. Akam-Venkata J*, Kadiu G, Galas J, Aggarwal S. *Prechemotherapy subclinical left ventricular dysfunction: Do we know the mechanism?* Echocardiography. 2020 Jan;37(1):156-157.

Impact factor: 1.393, PubMed PMID: 31903623.

Role: manuscript writing

Book Chapters

1. Chapter #4 *Functionally Univentricular Heart with Right Heart Hypoplasia (Tricuspid Atresia with Normally Related Great Arteries and Pulmonary Atresia with Intact Ventricular Septum)*. **James M. Galas**, Deemah R. Mahadin, and Ralph E. Delius. Cardiac Emergencies in Children. Ashok P.Sarnaik, Robert D. Ross, Steven E. Lipshultz, Henry L. Walters III (Editors). 2018 Springer.

Role: co-author, corresponding author, manuscript writing

2. Chapter #31 *Cyanotic Congenital Heart Disease*. Richard A. Humes and **James M. Galas**. Clinical Echocardiography Review: A Self-Assessment Tool 2nd edition. Allan L. Klein , Craig R. Asher (Editors). 2017 Wolters Kluwer.

Role: co- author, manuscript writing

Review Articles

1. Akam-Venkata J*, Galas J, Aggarwal S. *Cardiovascular Evaluation of Children With Malignancies*. *Curr Treat Options Cardiovasc Med*. 2019 Mar 11;21(3):14.

Review. PubMed

Impact factor: 1.830, PMID: 30854598.

Role: manuscript writing

2. Galas JM. *Sports participation during teenage years*. *Pediatr Clin North Am*. 2014 Feb;61(1):91-109.

Impact factor: 2.12, Citations: 2. PMID: 24267460.

Role: first author, manuscript writing

3. Nguyen T, Miller M, Gonzalez J, Nardell K, Galas J, John JB, Timofeev S, Lambou R, Douglas K, Marx G. *Echocardiography of hypoplastic left heart syndrome*. *Cardiol Young*. 2011 Dec;21 Suppl 2:28-37.

Impact factor: 0.84 , Citations: 6. PMID: 22152526.

Role: manuscript writing

Published Abstracts

1. Venkata, J.*, Galas, J., Gayanilo, M., Gupta, P., & Aggarwal, S. (2018). Single Left Ventricular Function Following Fontan Palliation In Pulmonary Atresia Vs. Tricuspid Atresia: A Speckle Tracking Echocardiographic Study: P1-81. *Journal of the American Society of Echocardiography*, 31(6).

2. Kadiu, G., Gayanilo, M., Gupta, P., Galas, J., & Aggarwal, S. (2018). Longitudinal Changes in Single Right Ventricle Function in Hypoplastic Left Ventricle Syndrome and its Variant

Following Hybrid Procedure: Does Forward Flow Through Aortic Valve Matter?: P1-66. *Journal of the American Society of Echocardiography*, 31(6).

PRESENTATIONS

International / National

Echocardiographic evaluation of Truncus Arteriosus. 12th Annual International February 2012
Symposium on Congenital Heart Disease. February 2012. All Children's
Hospital, St. Petersburg, Florida.

Local / Regional

1. *Sudden Cardiac Arrest in the Young: Making Strides Towards Prevention* November 5, 2019
Lecture to Detroit area School Nurses.

2. *Sudden Cardiac Arrest in the Young: Raising Awareness and Making Strides* 2013
Towards Prevention. Nursing Lunch and Learn Series. Children's Hospital
Michigan Nursing Staff, Detroit, Michigan.

3. *Basics of Pediatric Echocardiography.* ICAEL lecture series. All Children's Hospital October 2012
St. Petersburg, Florida.

4. *Aortic Arch Anomalies: Rings, Slings, and other Things.* ICAEL lecture series. March 2012
All Children's Hospital, St. Petersburg, Florida.

5. *Pediatric Echocardiography of Atrial and Ventricular Septal Defects.* February 2012
Pediatric Echocardiography for Adult Sonographers Symposium. All Children's
Hospital, St. Petersburg, Florida

6. *Echocardiography in the NICU.* Neonatal Physiology lecture series. Tampa February 2012
General Hospital, Tampa, Florida

7. *Measurements in Pediatric Echocardiography.* ICAEL lecture series. April 2011
All Children's Hospital, St. Petersburg, Florida

8. *Acquired Heart Disease.* Practical Pediatrics - lectures for General Pediatricians July 2010
All Children's Hospital, St. Petersburg, Florida

9. *Dilated Cardiomyopathy in the Pediatric Population.* Pediatric Cardiol June 2008
Fellowship Heart lesion lecture. University of Michigan.

Invited Seminars and Grand Rounds

1. *Congenital Heart Disease for the Primary Care Practitioner – Part 1.* February 15, 2020. Children's Hospital of Michigan Saturday CME Lecture Series in Pediatric Medicine. Children's Hospital of Michigan Detroit, Michigan.
2. *Finding a Needle in a Haystack: An Approach to Screening and Prevent Sudden Cardiac Death in the Young.* May 18, 2018. Children's Hospital of Michigan is pr to present the 61st Annual Clinic Days. Detroit Marriott Troy, Troy Michig
3. *Prevention of Sudden Cardiac Death in Pediatrics: An Approach for the Michigan Pediatrician in 2017.* April 19, 2017. Pediatric Update sponsored by Hurley Medical Center Department of Pediatrics. Holiday Inn Gateway Center, Flint, Mich
4. *Sudden Cardiac Death in Pediatrics.* Hurley Medical Center Grand Rounds January 20, 2016. Hurley Medical Center, Flint Michigan.
5. *Referring Wisely to the Pediatric Cardiologist.* Henry Ford CME November 21, 2015. Conference. Henry Ford Corporate Office.
6. *Sudden Cardiac Death.* Children's Hospital of Michigan Saturday CME May 10, 2014. Lecture Series in Pediatric Medicine. Children's Hospital of Michigan Detroit, Michigan
7. *Sudden Cardiac Arrest in the Young: Raising Awareness and Making Strides Towards Prevention* April 2013. Pediatric Grand Rounds. Children's Hospital of Michigan Detroit, Michigan.
8. *Electrocardiographic Screening in Athletics and ADHD: A Review of Current Guidelines.* February 2009. Pediatric Grand Rounds. Sparrow Hospital Lansing, Michigan

Medical Student Lectures

Wayne State University School of Medicine

Valvular Heart Disease. Annual lecturer for MD2 Cardiovascular Pathophysiology unit. 2013 - 2020

State University of New York School of Medicine and Biomedical Sciences

1. Pediatric Pearls. USMLE Pediatric review session. November 9, 2004
2. *Heart Murmurs.* Third year medical student pediatrics clerkship. Given 2003 - 2005 times a year.
3. *The Bare Necessities of Pediatric Dermatology.* Third year medical student pediatrics clerkship. Given 6 times a year. 2002 - 2003

Pediatric Resident Lectures

Pediatric Board Review. Cardiology: Infectious and Postinfectious Diseases 2013 - 2015, 2018 - and Systemic Diseases. Pediatric 3rd year Residents. Children's Hospital of Michigan. Wayne State University.

Division of Pediatric Cardiology –Fellow Lectures

1. *Acute Shunt Occlusion.* Quality Improvement. Children's Hospital of Michigan Pediatric Cardiology Fellowship, Detroit, Michigan. June 2020
2. *Preoperative Physiology and Management Primer.* Neonatology/Cardiac July 2019
 Quality Improvement. Children's Hospital of Michigan, Detroit, Michigan.
3. *Ductal Dependent Lesions.* Fellow Orientation for first year pediatric cardiology fellows. Children's Hospital of Michigan Pediatric Cardiology Fellowship, Detroit, Michigan. 2019 - 2020

4. *Pediatric Echo Jeopardy*. Pediatric Echocardiography Conference. 2014 - 2020
Children's Hospital of Michigan Pediatric Cardiology Fellowship, Detroit,
Michigan.

5. *Pre and Post-Operative Single Ventricle*. Children's Hospital of Michigan 2014 - 2020
Pediatric Cardiology Fellowship, Detroit, Michigan.

6. *Pediatric Cardiology Jeopardy*. Pediatric Echocardiography Conference 2014 - 2020
December (annually). Children's Hospital of Michigan Pediatric Cardiology
Fellowship, Detroit, Michigan.

7. *Segmental Approach to Pediatric Echocardiography*. Fellow Orientation 2013, 2015 - 2016,
first year pediatric cardiology fellows. Children's Hospital of Michigan Pediatric
Cardiology Fellowship, Detroit, Michigan.