

Shiraz A. Maskatia, MD

CONTACT INFORMATION

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Milpitas, CA 95035
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CURRENT POSITION

Assistant Professor, Section of Pediatric Cardiology
Associate Director, Fetal Cardiology
Stanford University School of Medicine
Lucile Packard Children's Hospital
750 Welch Rd Suite 325 Palo Alto, CA, 94304

PREVIOUS POSITIONS

2014-2016 Director, Cardiology ICU Consult Service, Baylor College of Medicine, Houston TX
2012-2016 Assistant Professor, Section of Pediatric Cardiology, Baylor College of Medicine, Houston TX
2011-2012 Clinical Instructor, Section of Pediatric Cardiology, Baylor College of Medicine, Houston TX

EDUCATION/TRAINING

2011-2012	Texas Children's Hospital, Baylor College of Medicine	Advanced Cardiac Imaging
2008-2011	Texas Children's Hospital, Baylor College of Medicine	Pediatric Cardiology Fellowship
2005-2008	Lucile Packard Children's Hospital, Stanford University	Pediatrics Residency
2001-2005	University of Chicago, Pritzker School of Medicine	MD
1996-2000	University of California at Berkeley, Molecular and Cell Biology/Psychology	BA

BOARD CERTIFICATION AND LICENSING

2016-present Licensed by the California Medical Board, License #A97064
2012-present Board Certified in Pediatric Cardiology
2010-present Board Certified in Pediatrics
2008-present Licensed by the Texas Medical Board, License #N0951
2006-2010 Licensed by the California Medical Board, License #A97064

PUBLISHED PEER REVIEWED JOURNAL PUBLICATIONS

2017 Shamshirsaz AA, Bateni ZH, Sangi-Haghpeykar H, Arian SE, Erfani H, Shamshirsaz AA, Abuhamad A, Fox KA, Ramin SM, Moaddab A, **Maskatia SA**, Salmanian B, Lopez KN, Hosseinzadeh P, Schutt AK, Nassr AA, Espinoza J, Dildy GA, Belfort MA, Clark SL. "Cyanotic congenital heart disease following fertility treatments in the United States from 2011 to 2014" *Heart* Nov 16

2017 **Maskatia SA**, Cabrera AG, Morris SA, Altman CA. "The Pediatric Echocardiography Boot Camp: Four-year Experience and Impact on Clinical Performance" *Echocardiography*, 2017 Oct;34(10):1486-1494

2017 Petit CJ, Glatz AC, Qureshi AM, Sachdeva R, **Maskatia SA**, Justino H, Goldberg DJ, Mozumdar N, Whiteside W, Rogers LS, Nicholson GT, McCracken C, Kelleman M, Goldstein BH. "Outcomes Following Decompression of the Right Ventricle in Infants Diagnosed with Pulmonary Atresia with Intact Ventricular Septum are Associated with Degree of Tricuspid Regurgitation: Results from the Congenital Catheterization Research Collaborative" *Circ Cardiovasc Interv*. 2017 May;10(5)

2017 Kailin JA, Dhillon GS, **Maskatia SA**, Cass DL, Shamshirsaz AA, Mehollin-Ray AR, Cassady CI, Ayres NA, Wang Y, Belfort MA, Olutoye OO, Ruano R. "Fetal left-sided cardiac structural dimensions in left-sided congenital diaphragmatic hernia - association with severity and impact on postnatal outcomes" *Prenat Diagn*. 2017 May;37(5):502-509

2017 **Maskatia SA**, Lee W, Altman CA, Ayres NA, Feagin DK, Pignatelli RH. "Left ventricular rotational mechanics in early infancy: Normal reference ranges and reproducibility of peak values and time to peak values" *Early Hum Dev*. 2017 Jan;104:39-44

2016 **Maskatia SA**, Ruano R, Shamshirsaz AA, Javadian P, Kailin JA, Belfort MA, Altman CA, Ayres NA. "Estimated Combined Cardiac Output Aids in the Assessment of Fetuses with Twin-Twin Transfusion Syndrome" *Echocardiography*. 2016 Oct;33(10):1563-1570.

2016 Lara DA, Morris SA, **Maskatia SA**, Becker J. "Reply to Re: Pilot study of chronic maternal hyperoxygenation and effect on aortic and mitral valve annular dimensions in fetuses with left heart hypoplasia" *Ultrasound Obstetrics and Gynecology*. 2016 Sep;48(3):405-6.

- 2016 Ezon DS, Ayres NA, Altman CA, Denfield SW, Morris SA, **Maskatia SA**. "Echocardiographic Parameters and Outcomes in Primary Fetal Cardiomyopathy" Journal of Ultrasound in Medicine, 2016 Jul 27
- 2016 **Maskatia SA**, Pignatelli RH, Ayres NA, Altman CA, Sangi-Haghpeykar H, Lee W. "Fetal and neonatal diastolic myocardial strain rate: normal reference ranges and reproducibility in a prospective, longitudinal cohort of pregnancies" Journal of the American Society of Echocardiography, 2016 Apr 1: S0894-7317(16)00165-6.
- 2016 Spinner JA, Noel CV, Denfield SW, Krishnamurthy R, Jeewa A, Dreyer WJ, **Maskatia SA**. "Association of Late Gadolinium Enhancement and Degree of Left Ventricular Hypertrophy Assessed on Cardiac Magnetic Resonance Imaging with Ventricular Tachycardia in Children with Hypertrophic Cardiomyopathy" American Journal of Cardiology, 2016 Apr 15;117(8):1342-8.
- 2016 Loar RW, **Maskatia SA**, Scheller McLaughlin E, Mott A, Adachi I, Fraser CD. "Flail tricuspid valve after chest wall trauma in a pediatric patient." Annals of Thoracic Surgery, 2016 Mar;101(3):e65-7.
- 2016 **Maskatia SA**, Pignatelli RH, Ayres NA, Altman CA, Sangi-Haghpeykar H, Lee W. "Longitudinal Changes and Interobserver Variability of Systolic Myocardial Deformation Values in a Prospective Cohort of Healthy Fetuses Across Gestation and After Delivery." The Journal of the American Society of Echocardiography, 2016 Apr;29(4):341-9.
- 2016 Lara D, Morris SA, **Maskatia SA**, Challman M, Nguyen M, Feagin DK, Schoppe L, Zhang J, Bhatt A, Sexson-Tejtel SK, Lawrence EJ, Andreas S, Wang Y, Belfort M, Ruano R, Ayres NA, Altman CA, Aagaard K, Becker J. "A pilot study of chronic maternal hyperoxygenation and effect on aortic and mitral valve annular dimensions in fetuses with left heart hypoplasia." Ultrasound Obstetrics and Gynecology, 2015 Dec 23. doi: 10.1002/uog.15846.
- 2015 Banka P, Robinson JD, Uppu SC, Harris MA, Hasbani K, Lai WW, Richmond ME, Fratz S, Jain S, Johnson TR, **Maskatia SA**, Lu JC, Samyn MM, Patton D, Powell AJ. "Cardiovascular magnetic resonance techniques and findings in children with myocarditis: a multicenter retrospective study." Journal of Cardiovascular Magnetic Resonance, 2015 Nov 17; 17(1):96
- 2015 Bolin EH, **Maskatia SA**, Tate AL, Payne WA, Petit CJ "Older Age at Fontan Palliation is Associated with Improved Exercise Performance in the Current Era." Texas Heart Institute Journal, 2015 Aug 1;42(4):333-40
- 2015 Ezon DS, **Maskatia SA**, Sexson-Tejtel K, Dreyer WJ, Jeewa A, Denfield SW. "Tissue Doppler Imaging Measures Correlate Poorly with Left Ventricular Filling Pressures in Pediatric Cardiomyopathy." Congenital Heart Disease, 2015 Sep;10(5):E203-9
- 2015 **Maskatia SA**, Morris SA, Spinner JA, Krishnamurthy R, Altman CA "Echocardiographic Parameters of Right Ventricular Diastolic Function in Repaired Tetralogy of Fallot are Associated with Important Findings on Magnetic Resonance Imaging." Congenital Heart Disease, 2015 May-Jun;10(3):E113-22.
- 2015 Krishnamurthy R, Pednekar A, Atweh LA, Vogelius E, Chu ZD, Zhang W, **Maskatia SA**, Masand P, Morris SA, Krishnamurthy R, Muthupillai. "Clinical Validation of Free-Breathing Respiratory Triggered Retrospectively Cardiac Gated Cine Balanced Steady-State Free Precession Cardiovascular Magnetic Resonance in Sedated Children." Journal of Cardiovascular Magnetic Resonance, 2015 Jan 14;17(1):1.
- 2014 Niu MC, **Maskatia SA**, Kim JJ. "Marked Septal Dyskinesis From Wolff-Parkinson-White." Circulation. 2014 Dec 2;130(23):e196-8.
- 2014 Ruano R, Javadian P, Kailin JA, **Maskatia SA**, Shamshirsaz AA, Cass DL, Zamora IJ, Sangi-Haghpeykar H, Lee TC, Ayres NA, Mehollin-Ray A, Cassidy CI, Fernandes C, Welty S, Belfort ME, Olutoye OO. "Congenital heart anomaly in newborns with congenital diaphragmatic hernia: a single-center experience." Ultrasound Obstet Gynecol. 2014 Aug
- 2013 McKenzie ED, **Maskatia SA**, Mery C. "Surgical Management of Tetralogy of Fallot: In defense of the Infundibulum." Semin Thorac Cardiovasc Surg, 2013 autumn
- 2013 **Maskatia SA**, Altman CA, Morris SA, Cabrera AG. "The Echocardiography 'Boot Camp': A Novel Approach in Pediatric Cardiovascular Imaging Education." The Journal of the American Society of Echocardiography, 2013 July
- 2013 **Maskatia SA**, Spinner JA, Nutting AC, Slesnick TC, Krishnamurthy R, Morris SA. "Impact of Obesity on Ventricular Size and Function in Children, Adolescents and Adults with Tetralogy of Fallot After Initial Repair." American Journal of Cardiology, 2013 May
- 2013 **Maskatia SA**, Spinner JA, Morris SA, Petit CJ, Krishnamurthy R, Nutting AC. "Effect of Branch Pulmonary Artery Stenosis on Right Ventricular Volume Overload in Patients With Tetralogy of Fallot After Initial Surgical Repair." American Journal of Cardiology. 2013 Feb
- 2013 **Maskatia SA**, Justino H, Ing FF, Crystal MA, Mattamal RJ, Petit CJ. "Aortic Valve Morphology is Associated with Outcomes Following Balloon Valvuloplasty for Congenital Aortic Stenosis." Catheterization and Cardiovascular Interventions, 2013 Jan

- 2013 Petit CJ, **Maskatia SA**, Justino H, Mattamal RJ, Crystal MA, Ing FF. "Repeat Balloon Aortic Valvuloplasty Effectively Delays Surgical Intervention in Children with Recurrent Aortic Stenosis." Catheterization and Cardiovascular Interventions, 2013 October
- 2012 Ezon D, **Maskatia SA**, Jeewa A, Denfield S. "Morphologic heterogeneity in Left Ventricular Non-Compaction Resulting in Accessory Left Ventricular Chambers." Circulation Heart Failure, 2012 Nov
- 2012 Knudson JD, Lopez KN, **Maskatia SA**, McKenzie ED, Lantin-Hermoso R, Masand PM, Vick GW. "Type B Interrupted Left Aortic Arch with Isolated Right Subclavian Artery" Congenital Heart Dis, 2012 Feb
- 2012 **Maskatia SA**, Feinstein JA, Newman B, Hanley FL, Roth SJ. "Pulmonary Reperfusion Injury after the Unifocalization Procedure for Tetralogy of Fallot, Pulmonary Atresia, and Major Aortopulmonary Collateral Arteries." Journal of Thoracic and Cardio Surgery. 2012 Jan
- 2012 **Maskatia SA**. "Hypertrophic Cardiomyopathy: Infants, Children and Adolescents" Congenital Heart Dis, 2012 Feb
- 2012 **Maskatia SA**, Decker JA, Spinner JA, Kim JJ, Price JF, Jefferies JL, Dreyer WJ, O'Brian Smith E, Rossano JW, Denfield SW. "Restrictive Physiology is Associated with Poor Outcomes in Children with Hypertrophic Cardiomyopathy" Pediatric Cardiology 2012 Jan
- 2011 **Maskatia SA**, Ing FF, Justino H, Crystal MA, Mullins CE, Mattamal RJ, O'Brian Smith E, Petit CJ. "Twenty-Five Year Experience with Balloon Valvuloplasty for Congenital Aortic Stenosis" Am J Cardiol 2011 Oct
- 2011 **Maskatia SA**. "Congenital Anomalies of the Mitral Valve" Congenit Heart Dis. 2011 Jan

BOOK CHAPTERS

- Morris SA, **Maskatia SA**, Lee W, Altman CA, Ayres NA. Fetal and Perinatal Cardiology (chapter). In: *Moss & Adams' Heart Disease in Infants, Children, and Adolescents, Including the Fetus and Young Adult*. Editor Hugh Allen, Lippincott Williams & Wilkins; 2016:
- Morris SA, Ayres NA, Espinoza J, **Maskatia SA** and Lee W. Sonographic Evaluation of the Fetal Heart (chapter). In: *Callen's Ultrasonography in Obstetrics and Gynecology, 6th Edition*. Editors Drs. Mary Norton, Leslie Scoutt, and Vickie Feldstein, 2016: p 371-434.

SUBMITTED PUBLICATIONS UNDER REVIEW

Olive MK, Fraser CD, Kutty S, McKenzie ED, Hammel J, Krishnamurthy R, Dodd NA, **Maskatia SA**. "The right ventricular infundibular sparing approach to the repair of tetralogy of Fallot is associated with improved right and left ventricular systolic function as assessed by cardiac MRI compared to the transinfundibular approach"

Maskatia SA, Petit CJ, Travers CD, Goldberg DJ, Rogers LS, Glatz AC, Qureshi AM, Goldstein BH, Ao J, Sachdeva R. "Echocardiographic Parameters Associated with Clinical Outcome and Right Ventricular Growth Following Right Ventricular Decompression in Patients with Pulmonary Atresia Intact Ventricular Septum: Results from a Multicenter Study"

Cognata A, Griffiths P, **Maskatia SA**, Rios D, ODonnell A, Roddy D, Mehollin-Ray A, Hagan J, Placencia J, Hair A "Human Milk Reduces Necrotizing Enterocolitis in Neonates with Complex Congenital Heart Disease"

Edwards LA, Lara DA, Sanz Cortes M, Hunter JV, Smith EM, **Maskatia SA**, Andreas S, Nguyen M, Schoppe L, Zhang J, Sexson-Tejtel K, Lopez KN, Lawrence EJ, Wang Y, Challman M Ayres NA, Altman CA, Aagaard K, Becker J, Morris SA. "A Pilot Study of Chronic Maternal Hyperoxygenation and Effect on Cerebral and Placental Vasoregulation and Neurodevelopment in Fetuses with Left Heart Hypoplasia"

INVITED NATIONAL ORAL PRESENTATIONS

- 06/2017 "Systolic Diastolic Coupling in Pediatric Heart Disease," invited lecture at the annual meeting of the American Society of Echocardiography
- 11/2016 "Imaging-surgery correlation and outcomes in Tetralogy of Fallot," invited lecture at the SPR Advanced Symposium on Pediatric Cardiac Imaging.

- 11/2016 “When to be suspicious for aortic arch anomalies,” invited lecture at Fetal Cardiac Diagnosis and Outcomes Symposium at Texas Children’s Hospital, Baylor College of Medicine.
- 01/2016 “CMR in Congenital Heart Disease: Tetralogy of Fallot,” invited lecture at the Society of Cardiovascular Magnetic Resonance 19th Scientific Sessions
- 10/2015 “New perspectives on repaired TOF: impact on type of repair, branch PA stenosis and obesity,” invited lecture at the SPR Advanced Symposium on Pediatric Cardiac Imaging.
- 06/2015 “Fetal Ventricular Function: primary and secondary cardiomyopathies,” invited national lecture at the annual meeting of the American Society of Echocardiography.
- 06/2014 “Complementary Role of Cardiac MRI in the Evaluation of Pediatric HCM,” invited national lecture at the annual meeting of the American Society of Echocardiography.
- 05/2013 “Why Do I Do It? CMR for Post-Surgical Tetralogy of Fallot” Invited national lecture at the 56th annual meeting of the Society of Pediatric Radiology.

SCIENTIFIC ORAL AND POSTER PRESENTATIONS

- 02/2017 “The effect of maternal hyperoxygenation on fetal myocardial mechanics and hemodynamics in control fetuses and those with left-heart hypoplasia” Senior author. Poster abstract at the annual scientific sessions for the society for maternal fetal medicine
- 06/2017 “Effect of Maternal Hyperoxygenation on Fetal Hemodynamics and Myocardial Mechanics” Senior author. Poster abstract at the annual meeting of the American Society of Echocardiography
- 11/2016 “Echocardiographic Parameters Associated with Clinical Outcome and Right Ventricular Growth Following Right Ventricular Decompression in Patients with Pulmonary Atresia Intact Ventricular Septum: Results from a Multicenter Study” Poster abstract presentation at the annual American Heart Association Scientific Sessions
- 06/2016 “Left Ventricular Rotational Mechanics in Early Infancy: Normal Reference Ranges and Reproducibility” Poster abstract presentation at the annual meeting of the American Society of Echocardiography
- 06/2016 “Pediatric Echocardiography Boot Camp: Four-year experience and impact on clinical performance” Poster abstract presentation at the annual meeting of the American Society of Echocardiography
- 10/2015 “Fetal and neonatal diastolic cardiac strain rate: normal reference ranges and reproducibility in a prospective, longitudinal cohort of pregnancies” Oral abstract presentation at the 25th World Congress on Ultrasound in Obstetrics and Gynecology
- 06/2015 “The Effect of Chronic Maternal Hyperoxygenation on Aortic And Mitral Valve Annular Dimensions In Fetuses With Left Heart Hypoplasia” Oral abstract presentation at the annual meeting of the American Society of Echocardiography-coinvestigator
- 06/2015 “Longitudinal Changes and Interobserver Variability of Systolic Myocardial Deformation Values in a Prospective Cohort of Healthy Fetuses Across Gestation” Poster presentation at the annual meeting of the American Society of Echocardiography
- 02/2015 “Improved Right Ventricular Outflow Tract Function in Patients with Tetralogy of Fallot After Infundibular Sparing Compared to Transventricular Repair” Poster presentation at the annual meeting of the Society of Cardiovascular Magnetic Resonance
- 11/2014 “The Right Ventricular Infundibular Sparing Approach for the Repair of Tetralogy of Fallot Results in Improved Intermediate Term Right and Left Ventricular Systolic Function as Assessed by Cardiac MRI” Senior Author. Oral presentation at the American Heart Association Scientific Sessions
- 11/2013 “Increased Estimated Cardiac Output and Functional Improvement in Fetuses in Response to Laser Therapy for Twin-Twin Transfusion Syndrome.” Oral presentation at the American Heart Association Scientific Sessions
- 11/2013 “Utility of Late Gadolinium Enhancement and Left Ventricular Mass as assessed by Cardiac Magnetic Resonance in Children with Hypertrophic Cardiomyopathy.” Senior Author. Oral presentation at the American Heart Association Scientific Sessions
- 10/2013 “Postnatal outcome in newborns with congenital diaphragmatic hernia associated with cardiac defects: a single center experience.” Oral presentation at the 23rd World Congress on Ultrasound in Obstetrics and Gynecology. Presented by R Ruano
- 10/2013 “Prenatal Ultrasound and Magnetic Resonance Imaging Findings in Fetuses with Heart Defects Associated with Congenital Diaphragmatic Hernia” Oral presentation at the 23rd World Congress on Ultrasound in Obstetrics and Gynecology. Presented by R Ruano
- 06/2013 “In Primary Fetal Cardiomyopathy, Concurrent use of the Tei Index and the Cardiovascular Profile Score May Improve Prognostic Value” Senior Author. Poster presentation at the 24th annual American Society of Echocardiography Scientific Sessions.

06/2013	“Fetal Strain Using 2D Speckle Tracking Timed with Cardiac Events: A Feasibility Study” Poster presentation at the 24 th annual American Society of Echocardiography Scientific Sessions.
06/2013	“Echocardiographic Measures of Right Ventricular Diastolic Dysfunction are Associated with Risk Factors for Future Intervention as Assessed by MRI in Patients with Repaired Tetralogy of Fallot” Poster presentation at the 24 th annual American Society of Echocardiography Scientific Sessions.
03/2013	“Pediatric Echocardiography Boot Camp: A Novel Approach Towards Achieving Basic Imaging Competency” poster presentation at the American College of Cardiology 62 nd Scientific Sessions, JACC 2013 March
03/2012	“Impact of Branch Pulmonary Artery Stenosis on Right Ventricular Volume Overload in Patients with Repaired Tetralogy of Fallot” best poster contest participant at the American College of Cardiology 61 st Scientific Session, JACC 2012 March 27:59(13)A195
03/2012	“The Impact of Obesity on Ventricular Size and Function in Patients with Repaired Tetralogy of Fallot” poster presentation at the American College of Cardiology 61 st Scientific Session, JACC 2012 March 27:59(13)A197
04/2011	“Pulmonary Reperfusion Injury after Unifocalization Procedure for Tetralogy of Fallot, Pulmonary Atresia and Major Aortopulmonary Collateral Arteries,” poster presentation at the American College of Cardiology 60 th Scientific Session, JACC 2011 Apr 5:57(14)A28
04/2011	“Restrictive Physiology is a Major Predictor of Poor Outcomes in Children with Hypertrophic Cardiomyopathy,” best poster contest participant at the American College of Cardiology 60 th Scientific Session JACC 2011 Apr 5:57(14)A132
11/2010	“Restrictive Physiology is a Major Predictor of Poor Outcomes in Children with Hypertrophic Cardiomyopathy,” podium presentation at the Texas Section of the American Association of Pediatrics annual meeting
03/ 2010	“Long-Term Outcomes of Balloon Valvuloplasty for Congenital Aortic Stenosis,” podium presentation in Congenital Cardiology Solutions section at the American College of Cardiology 59 th Scientific Session, JACC 2010 Mar 9:55(10)A39
05/ 2005	“Patients with 22q11 Deletion are at Increased Risk for Poor Outcomes Status Post Repair of Tetralogy of Fallot,” University of Chicago Senior Scientific Session.
08/ 2002	L-Dopa responsiveness in Parkinsonian rat model, University of Chicago Summer Research Forum.

GRANT FUNDING, HONORS AND AWARDS

2016	Reynolds Foundation Donation: “Fund to Support Cardiac Clinical Imaging”—Awarded \$150,000 to obtain resources to advance the clinical and research cardiac MRI programs at Lucile Packard Children’s Hospital.
2015	Cardiovascular Research Institute Pilot Award: “Epigenomics in Infants of Diabetic Mothers with Subclinical Cardiac Disease.” Awarded \$5000 to study methylation patterns and echocardiographic markers of diastolic dysfunction in infants born to mothers with diabetes mellitus- <i>coinvestigator</i>
2015	Texas Children’s Hospital Pediatric Pilot Research Fund: “Maternal Oxygen Therapy for Fetal Left Heart Hypoplasia.” Awarded \$40,000 to the effect of chronic transplacental oxygen therapy on growth of left heart structures in fetuses with left heart hypoplasia- <i>coinvestigator</i>
2014	Dan G McNamara Teaching Award, Section of Pediatric Cardiology, Baylor College of Medicine. Annual award given to a faculty member for exemplary teaching.
2014	Cardiovascular Research Institute Pilot Award: “Maternal Hyperoxygenation in Fetal Left Heart Hypoplasia.” Awarded \$25,000 to study the effect of chronic transplacental oxygen therapy on growth of left heart structures in fetuses with left heart hypoplasia- <i>coinvestigator</i>
2013, 2014	Houstonia Magazine, “Top Doctors.” Selected by other physicians for this award in the category of Pediatric Cardiology.
2013	Texas Children’s Hospital Pediatric Pilot Research Fund: “Standardization of a Novel Method to Assess Fetal Cardiac Function: Myocardial Deformation Analysis.” Awarded \$50,000 to study myocardial deformation in a prospective cohort of normal fetuses- <i>lead investigator</i>
2012	TCH Educational Project Scholarship Award: “Pediatric Echocardiography Boot Camp.” Awarded \$10,960 to study the effects of a specialized echocardiography skills course on training of first year pediatric cardiology fellows- <i>lead investigator</i>
2010	First Place, Hypothesis Driven Fellow Projects-Texas Pediatric Society: The Texas Chapter of the American Academy of Pediatrics
2005	Golden Apple Teaching Award-Stanford University Medical School
1996, 2000	University of California at Berkeley Dean’s Honor List

ONGOING RESEARCH EXPERIENCE

- 2012-present Fetal myocardial deformation: establishing a protocol to measure and study myocardial deformation in the fetus.
- 2012-present The Echocardiography “Boot Camp” A Novel Approach in Pediatric Cardiovascular Imaging Education. Grant supported by the Department of Pediatrics, Baylor College of Medicine.
- 2011-present Combined obstetrics and cardiology initiative to study the effects of congenital diaphragmatic hernia and twin-twin transfusion syndrome on fetal cardiac performance
- 2010-present Combined cardiology, radiology, and surgical multi-modality research initiative to study the non-invasive assessment and long-term outcomes of patients with tetralogy of Fallot status post initial repair.

PREVIOUS RESEARCH EXPERIENCE

- 2012-2015 Cardiac MRI findings in pediatric patients with hypertrophic cardiomyopathy. Senior mentor to a pediatric resident.
- 03/05–06/05 University of Chicago Hospitals, Department of Pediatrics, PI: Frank Zimmerman, MD
Patients with 22q11 Deletion are at Increased Risk for Poor Outcomes Status Post Repair of Tetralogy of Fallot
- 02/04–05/04 Illinois SEARCH program, Illinois Health Education Consortium.
Investigated and reported demographics of various neighborhoods in Chicago
- 06/02–09/02 University of Chicago Hospitals, Department of Neurology, PI: Un Jun Kang, MD
L-Dopa responsiveness in a Parkinsonian rat model
- 09/98–03/00 University of California at Berkeley, Dept of Molecular and Cell Biology,
PI: Richard Steinhardt, PhD. Temperature sensitivity of calcium leak channels in rat myoblasts and muscle cells.

TEACHING LEADERSHIP

- 07/2012-04/2016 Pediatric cardiology Echocardiography Boot Camp, Director
Organize and lead an annual 3-day intensive course for first year cardiology and cardiac intensive care fellows consisting of didactic lectures, proctored hands-on sessions, live demonstration, and post-course assessments of skills and knowledge.
- 07/2012-04/2016 Pediatric cardiology non-invasive imaging lecture series, Director
Design and implement the non-invasive imaging curriculum, consisting of a rotating schedule of didactic lectures, case-based learning, and quality improvement.

TEACHING ACTIVITIES

- 10/2017 “Outpatient evaluation of congenital heart disease” Santa Clara Valley Medical Center grand rounds
- 10/2017 “A case of myocarditis” Organized multidisciplinary conference as part of the cardiology fellow lecture series.
- 10/2017 “Fetal protocol update” Talk given as part of the pediatric cardiology sonographer lecture series.
- 10/2017 “Assessment of systolic function” Talk given as part of the pediatric cardiology fellow lecture series.
- 09/2017 “Introduction to CT and MRI” Talk given as part of the introductory fellow lecture series.
- 07/2017 “The segmental approach to cardiac anatomy” Talk given as part of the introductory fellow lecture series.
- 05/2017, 06/2017 “Diastology” Talk given as part of a bi-monthly lecture series to cardiology fellows and as part of separate bimonthly lecture series to sonographers
- 04/2017 “Fetal cardiovascular interventions” Talk given to cardiology fellows as part of a bimonthly lecture series
- 04/2017 “Twin-Twin Transfusion Syndrome” Talk given to sonographers as part of a bimonthly lecture series
- 03/2017 “The Assessment of Fetal Cardiovascular Status” Talk given to a combined group of neonatology and maternal fetal medicine fellows, and to a separate group of cardiac sonographers
- 02/2017 “Hypoplastic left heart syndrome” Talk give to cardiology fellows as part of a bimonthly lecture series

01/2017	“Maternal Hyperoxygenation for Left Heart Hypoplasia” Talk given at the Maternal Fetal Medicine faculty meeting
01/2017	Medicine and Wellness curriculum. Designed and implemented a month long curriculum designed for junior high and high school students at Suffa Islamic Educational Program. As part of this curriculum, I gave talks on “Medicine and Scientific Discovery” and on “Health and Wellness Issues for Muslims.”
11/2016	“Echocardiographic evaluation of pulmonary stenosis and pulmonary atresia with intact ventricular septum” Talk given as part of a bi-monthly lecture series to cardiology fellows
01/2016	Oral case presentation at the Society of Cardiovascular Magnetic Resonance 19 th Scientific Sessions
05/2015	ARDMS The American Registry for Diagnostic Medical Sonography (ARDMS) Fetal Echo FE Item Development Workshop
04/2015	Oral case presentation at the 6 th Phoenix Fetal Cardiology Symposium: “A case of single ventricle anatomy with bradycardia”
01/2012	“Congenital Heart Disease: An Overview” Talk given as part of the Baylor College of Medicine residents lecture series
06/2011-present	Echocardiography curriculum: Developed and introduced echocardiography curriculum based around ACGME core competencies
06/2011	“Hypertrophic Cardiomyopathy: Infancy, Childhood and Adolescence,” Texas Children’s Hospital, Section of Pediatric Cardiology. Talk given for fellows’ lecture series.
09/2010, 09/2011	“Pediatric Echocardiography, the TCH Way” Talk given to Alvin community college echocardiography students.
06/2010	“Comparison of Shunt Types in the Norwood Procedure for Single-Ventricle Lesions,” Texas Children’s Hospital, Section of Pediatric Cardiology. Journal club presentation
02/ 2010	“Mitral Valve Abnormalities,” Texas Children’s Hospital, Section of Pediatric Cardiology Talk given for fellows lecture series
03/ 2009	“Transposition of the Great Arteries,” Texas Children’s Hospital, Section of Pediatric Cardiology. Talk given for fellows lecture series
05/2006	Lucile Packard Children’s Hospital, Dept of Pediatrics. Developed on-call teaching system for residents and medical students.
01/03–03/03	University of Chicago, Department of Ethics. Served as a teaching assistant for the Doctor Patient Relationship course offered to first year medical students.
01/00–05/00	University of California at Berkeley, Department of Physiology. Developed and implemented curriculum of physiology classes for Spanish speaking children.

VOUNTEER/WORK EXPERIENCE

2002	Community Clinic of Chicago. Triage and translated at a community clinic.
2002	Remedy International Medical Group. Organized and participated in an aid mission to Havana, Cuba during which medications were provided directly to clinics that cared for the native population.
2001-2002	Adolescent Substance Abuse Program. Counseled school children on the dangers of substance abuse.
2000-2001	Burt Children’s Center. Served as a Residential Worker and Supervisor at a group home for abused and emotionally disturbed children in San Francisco.
1998-2000	Suitcase Health Clinic for the Homeless. Triage, provided counseling, and assisted in the health care of the indigent population of Berkeley, California.
06-08/1995	Amigos de las Americas: Traveled to rural Michoacán, Mexico for public health service

MEMBERSHIPS AND ORGANIZATIONS

American Society of Echocardiography, Fellow.
 American Association of Pediatrics, Fellow
 Society of Cardiovascular Magnetic Resonance, Member
 American Registry for Diagnostic Medical Sonography, Volunteer
 American Heart Association, Member. American College of Cardiology, Member
 American Medical Association, Member
 Islamic Networks Group, Cultural competency speaker

ASSOCIATE EDITOR FOR THE FOLLOWING JOURNAL: *Congenital Heart Disease*

AD HOC REVIEWER FOR THE FOLLOWING JOURNALS: *Circulation: Cardiovascular Imaging, Circulation: Heart Failure, Journal of the American Society of Echocardiography, Journal of Cardiovascular Magnetic Resonance, Catheterization*

and Cardiovascular Interventions, American Journal of Cardiology, Pediatric Research, Congenital Heart Disease, Journal of Ultrasound in Medicine, Journal of General Practice, Advances in Medical Education and Practice, Fetal Diagnosis and Therapy, Prenatal Diagnosis

NATIONAL COMMITTEES

- 2015-present American Registry for Diagnostic Medical Sonography (ARDMS) Fetal Echocardiography Item Development Group: prepare and review questions for ARDMS fetal echocardiography Certification
- 2014-present American Society of Echocardiography (ASE) Pediatric Congenital Heart Disease ASE University Project: contribute to the development of an online library of questions pertaining to congenital heart disease

INSTITUTIONAL COMMITTEES

- 2015-2016 STaRS Resident reflection series: Faculty moderator
- 2014-2016 Texas Children's Hospital Neonatal Cardiovascular Care Committee
- 2011-2016 Cardiology fellowship curriculum committee

FOREIGN LANGUAGES:

Spanish-fluent in medical and conversational