

#### COURSE ORGANIZERS:

Bijan Siassi, MD – Course Director  
Associate Professor of Pediatrics and Radiology  
Keck School of Medicine, University of Southern California

Mahmood “Mac” Ebrahimi, RDCS  
Instructor of Clinical Pediatrics  
Keck School of Medicine, University of Southern California

Shahab Noori, MD, MS CBTI, RDCS  
Associate Professor of Pediatrics  
Keck School of Medicine, University of Southern California

#### FACULTY:

Ruben Acherman, MD  
Professor of Pediatrics, Cardiology  
University of Nevada, Las Vegas, Nevada

Shazia Bhombal, MD  
Assistant Professor of Pediatrics  
Stanford University School of Medicine, CA  
Medical Director, NICU Heart Team

Anup Katheria, MD  
Assistant Professor of Pediatrics  
Sharp Mary Birch Hospital for Women & Newborns,  
San Diego, California

Rangasamy Ramanathan, MD  
Professor of Pediatrics  
Keck School of Medicine, University of Southern California  
Division Chief, LAC+USC Medical Center  
Director, NICU and Fellowship Program

Jennifer Shepherd, MD  
Assistant Professor of Pediatrics  
Keck School of Medicine, University of Southern California

Merujan Uzunyan, MD  
Assistant Professor of Clinical Pediatrics  
Keck School of Medicine, University of Southern California  
Director, Pediatric Cardiology, LAC+USC Medical Center

Pierre Wong, MD  
Associate Professor of Pediatrics  
Keck School of Medicine, University of Southern California  
Director, Echocardiography Lab and Cardiac Pathology  
Registry, Children’s Hospital, Los Angeles



Registration fee is \$800.

For those in training the registration fee is \$500.

For program information please contact:

Ms. Reyna Mayoral, Activity Coordinator at [mayoral@usc.edu](mailto:mayoral@usc.edu)  
or call (323) 409-3406

**Space is limited.**

**Please register prior to July 1, 2018**

#### FACULTY DISCLOSURE

Current guidelines state that participants in continuing medical education activities should be aware of any affiliation or financial interest that could affect the speaker’s presentation(s). Faculty members have completed conflict of interest declarations and those potential conflicts will be listed in the course syllabus.

#### ACCREDITATION STATEMENT

The Keck School of Medicine of the University of Southern California is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The Keck School of Medicine of the University of Southern California designates this educational activity for (to be determined) *AMA PRA Category 1 Credit(s)*™.



**The 16<sup>th</sup> Annual Echo Course**

## **Functional Echocardiography in the Neonate**

**September 10-14, 2018**

**Good Samaritan Hospital  
University of Southern California  
Los Angeles, California**



## Course Highlights

- The most comprehensive echo course available for neonatologists
- Hands-on training on multiple echo simulators:
  - ✓ Obtain complete set of images from all cardiac windows and recognize various structures of a normal heart
  - ✓ Recognition of spatial relationship of cardiac structures obtained from cutting planes through a 3 dimensional heart image volume
  - ✓ Assessment of cardiac function and estimation of flow using calculation package
  - ✓ Differentiating abnormal cardiac structures from a normal heart
- Test of echo skills on simulators and provision of a certificate with successful completion of the test
- Opportunity to perform echocardiography on volunteering children

### Course Objectives

Upon completion of this course, the participants are expected to:

- Understand basic principles of ultrasonography
- Recognize basic features of echocardiographic scanners
- Identify correctly basic echocardiographic views
- Evaluate blood flow direction and velocity by pulse and continuous wave and color flow Doppler
- Identify correctly shunts through patent ductus arteriosus and foramen ovale
- Understand application of indices used in measurements of systolic and diastolic function of the heart
- Be able to do quantitative measurements of blood flow through aortic valve, pulmonary valve and superior vena cava on an echo simulator
- Be able to do estimation and measurement of pulmonary arterial pressure by Doppler ultrasound on an echo simulator
- Recognize presence of hypertrophic cardiomyopathy in infants of diabetic mothers
- know echocardiographic findings of pericardial effusion and early signs of cardiac tamponade
- Distinguish normal vs selected CHD using simulators
- Recognize non-cardiac applications of ultrasonography

The participants will also be introduced to the techniques of hands-on echocardiography in the neonate using simulator. However, development of competence to independently obtain quality echocardiograms may require 6 to 9 months of training under supervision in our or any other echocardiography laboratory and NICU.

## Presented by:

**Division of Neonatology, LAC+USC Medical Center and Good Samaritan Hospital, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA**

### Course Presentation Schedule

#### Monday, September 10, 2018

08:00	Introductory remarks Rangasamy Ramanathan, MD.
08:20	Pretest
09:00	Basic physical principles of ultrasonography & Display Modes  Merujan Uzunyan, M.D.
10:00	Normal cardiac anatomy as revealed by 2D images Bijan Siassi, M.D
11:00	Standard echocardiographic views Mahmood "Mac" Ebrahimi, RDCS
12:00	Lunch
13:00	Echo simulation and hands on practice M. Ebrahimi, B. Siassi, S. Noori and staff
17:00	Adjourn

#### Tuesday, September 11, 2018

08:00	Doppler echocardiography Merujan Uzunyan, M.D.
09:00	Measurement aortic, pulmonary, SVC flow Anup Katheria, M.D.
10:00	Assessment of systolic, diastolic and global cardiac function and cerebral, renal and intestinal blood flows Shahab Noori, M.D.
11:00	Myocardial dysfunction, heart failure and shock in neonate Shahab Noori, M.D.
12:00	Lunch
13:00	Echo simulation and hands on practice M. Ebrahimi, B. Siassi, S. Noori and staff
17:00	Adjourn

#### Wednesday, September 12, 2018

08:00	Assessment of pulmonary arterial pressure Shazia Bhombal, M.D.
09:00	Transitional circulation and perinatal manifestation of congenital heart disease Bijan Siassi, M.D.
10:00	Excluding congenital heart disease Mahmood "Mac" Ebrahimi, RDCS
11:00	Assessment of hemodynamic significance of patent ductus arteriosus in premature neonates Shahab Noori, M.D.
12:00	Lunch
13:00	Echo simulation and hands on practice M. Ebrahimi, B. Siassi, S. Noori and staff
17:00	Adjourn

#### Thursday, September 13, 2018

08:00	Cardiac Function: Future direction Pierre Wong, M.D.
09:00	Assessment of gradients and regurgitation Merujan Uzunyan, M.D.
10:00	Effect of ventilator management on cardiovascular function Rangasamy Ramanathan, MD
11:00	Use of non-cardiac ultrasonography in assessment and management of neonates in the NICU Jennifer Shepherd, M.D.
12:00	Lunch
13:00	Echo simulation and hands on practice M. Ebrahimi, B. Siassi, S. Noori and staff
17:00	Adjourn

#### Friday, September 14, 2018

09:00	Fetal echocardiography and Doppler Ultrasonography in the Diagnosis of Congenital Heart Disease: An Overview Ruben Acherman, M.D.
09:45	Fetal echocardiography in evaluation of cardiovascular function: arrhythmia, congestive heart failure, hydrops, and vascular flow patterns Ruben Acherman, M.D.
10:30	Aneurysm of PDA, cardiomyopathy, systemic to pulmonary arterial shunts Ruben Acherman, M.D.
11:00	Final evaluation
12:30	Lunch and reception
14:00	Adjourn