

26th Annual  
*State-of-the-Art*  
**ECHOCARDIOGRAPHY**



**February 10 - 13, 2013**

**InterContinental Montelucia  
Scottsdale, AZ**

**Learning Lab**

February 9 - 10, 2013

**Co-Directors:**

Roberto M. Lang, MD, FASE

Bijoy K. Khandheria, MD, FASE

Vera H. Rigolin, MD, FASE

Matt Umland, RDCS, FASE

**New Course Highlights**

- Expanded learning laboratories - making the diagnosis. The right and the wrong - commonly encountered errors in measurements.
- Special session on case based learning
- Incorporating strain, 3D into daily practice of echocardiography
- Focus on structural heart disease
- Play to Learn: New game with audience participation. Cases, cases, and more cases

# Program Information

## Program Overview

State-of-the-Art Echocardiography is a premier educational venue for cardiovascular ultrasound in clinical practice. This superbly rated meeting is filled to capacity year after year. Although the course is refocused yearly to ensure the most up to date information, topics will include quantitative echocardiography, valvular and ischemic heart disease, stress/contrast echocardiography, advances in imaging in coronary disease, state-of-the-art and clinical applications of transesophageal echocardiography (TEE), diastology, physiological disease management and myopericardial diseases. Special workshops are available on focused topics of interest to general as well as specialty participants.

Participants should have a practical knowledge of echocardiography to benefit most fully from this program. The setting is ideal for participants to bring their families and take advantage of some vacation time.

The American Society of Echocardiography is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

## Learning Lab

A learning lab will be offered on Saturday, February 9th and Sunday, February 10th. This workshop requires separate registration and is a part of the total hours of educational content offered by the course.

This intimate workshop features easy access to faculty members. Individual computer workstations are provided to teach each participant how to quantitate fundamental aspects of clinical echocardiography. The small group environment allows the opportunity for virtually private instruction from top practitioners in the field.

## Who Should Attend

The program is designed for adult and pediatric cardiologists, cardiovascular surgeons, anesthesiologists, radiologists, nurses, sonographers and fellows in training. Participants should have a practical knowledge of echocardiography.

## Fee

Your registration will be confirmed by email only. Registration fee includes continental breakfasts, breaks, lunches, reception, and a memory stick containing course materials.

One of the many benefits of being an American Society of Echocardiography (ASE) member is that ASE members are eligible to receive a reduced registration fee for State-of-the-Art Echocardiography as well as for all ASE educational courses. If you are not currently a member and wish to become one, visit [www.asecho.org](http://www.asecho.org).

## Cancellations

If you cancel your participation in this course, your registration fee, less a \$100 administrative fee, will be refunded when written notification is received before Thursday, January 10, 2013. No refunds will be made after Thursday, January 10, 2013. No refund will be given for no-shows.

In the unlikely event the meeting/ course is cancelled, ASE is responsible only for refund of the registration fee (minus any processing fee) and not for transportation, hotel accommodations or any miscellaneous expenses incurred by the participant.

## Lodging

To secure your room at the InterContinental Montelucia, please call 888-627-3010 and state that you will be attending the **State-of-the-Art Echocardiography** program. The room rate is \$265 single/double a night. A deposit of one night room plus tax will be held at the time of reservation. Deposit will be forfeited for any cancellations occurring 21 days or less prior to Wednesday, February 6, 2013. Check-in time is 4:00 p.m. and check-out time is noon.

The room block is scheduled to be held until Sunday, January 6, 2013 but may be sold out before this date. Therefore, we advise you to register for the program and reserve your lodging as soon as possible. A daily housekeeping fee of \$3.00 per day will automatically be applied. When you make your reservation, please be sure to ask about any additional fees, early departure fees, or cancellation penalties. Note, there is no resort fee.

## Transportation

The Phoenix Sky Harbor International Airport is located 8 miles from the Scottsdale area, where the InterContinental Montelucia is located. Transportation discounts on shuttle service from the airport and car rental will be available at [www.asecho.org/StateoftheArt](http://www.asecho.org/StateoftheArt).

**For the full State-of-the-Art Echocardiography program, visit [www.asecho.org/StateoftheArt](http://www.asecho.org/StateoftheArt)**

# Schedule of Events

## Learning Lab

SATURDAY, FEBRUARY 9, 2013

### A Road to Comprehensive Quantification Using ASE Guidelines

7:00 am – 8:00 am	<b>Continental Breakfast</b>
8:00 am	<b>Welcome and Introduction to the Classroom</b> <i>R. Lang, B. Khandheria</i>
8:15 am	<b>Introduction to Software and Computers</b> <i>M. Umland</i>
8:30 am	<b>Basic Measurements: LV, LA, RV, Biplane Simpson 3D LVEF</b> <i>R. Lang, G. Lammertin</i>
9:00 am	<b>Basic Doppler: VTI, SV, CO, CI, RVSP</b> <i>B. Khandheria, M. Umland</i>
9:30 am	<b>Aortic Valve: Vena Contracta, Regurgitant Orifice</b> <i>R. Lang, K. Collins</i>
10:00 am	<b>Break</b>
10:30 am	<b>Aortic Valve: Mean Gradient, Valve Area, TAVR Measurements</b> <i>B. Khandheria, C. Kramer</i>
11:00 am	<b>Shop, Oops, Trace Till You Drop</b> <i>(Several cases will be available to practice tracing/measuring)</i>
11:45 am	<b>Mitral Stenosis: 2D, Doppler, 3D</b> <i>R. Lang, G. Lammertin</i>
12:15 pm	<b>Question and Answer</b>
12:30 pm	<b>Lunch</b>
1:30 pm	<b>Mitral Regurgitation: Vena Contracta, ERO</b> <i>B. Khandheria, M. Umland</i>
2:00 pm	<b>Diastolic Function 101: Commonly Used Parameters</b> <i>B. Khandheria, M. Umland</i>
2:30 pm	<b>Challenges in Diastolic Function</b> <i>B. Khandheria, C. Kramer</i>
3:00 pm	<b>Myocardial Mechanics 101</b> <i>P. Sengupta, C. Kramer</i>
3:45 pm	<b>Mystery Cases, 3D cases, Challenging Cases</b> <i>R. Lang, B. Khandheria, M. Umland, K. Collins</i>
4:15 pm	<b>Refreshment Break</b>
4:30 pm	<b>Practice, Practice and More Practice</b> <i>M. Umland, C. Kramer, G. Lammertin, K. Collins</i>
5:15 pm	<b>Questions and Answers</b> <i>All Faculty</i>
5:30 pm	<b>Adjourn</b>

SUNDAY, FEBRUARY 10, 2013

### Continuation of Learning Lab: A Road to Comprehensive Quantification Using ASE Guidelines

7:30 am	<b>Continental Breakfast</b> <i>Alhambra Foyer</i>
8:00 am	<b>Right Ventricle: Size and Function</b> <i>B. Khandheria, M. Umland</i>
8:30 am	<b>Myocardial Mechanics: Beyond 101</b> <i>P. Sengupta, C. Kramer</i>
9:00 am	<b>Prosthetic Heart Valves: Gradient, Valve Area</b> <i>B. Khandheria, M. Umland</i>
9:30 am	<b>Pulmonary Hypertension: Comprehensive Evaluation</b> <i>R. Lang, K. Collins</i>
10:00 am	<b>Time to Practice Again</b> <i>All Faculty</i>
11:00 am	<b>Question and Answer</b> <i>All Faculty</i>

## Main Conference

SUNDAY, FEBRUARY 10, 2013

7:00 am	<b>Registration</b> <i>Alhambra Foyer</i>
8:45 am	<b>Welcome and Introduction</b> <i>B. Khandheria, R. Lang, V. Rigolin</i>
9:00 am	<b>What? You Are Not a Member of ASE? What Does it do For Me? Why Should I Join?</b> <i>P. Pellikka</i>

### Start to Finish: Taking Congenital Heart Disease from Beginning to End– A Case-Based Seminar

*R. Humes, presiding*  
*Location: Alhambra Ballroom*

#### PART I

9:15 am	<b>Adults with Congenital Heart Disease</b> <i>J. Kovach</i>
9:30 am	<b>ASD, VSD</b> <i>R. Humes</i>
10:00 am	<b>AV Canal</b> <i>R. Humes</i>
10:15 am	<b>Coarctation</b> <i>J. Kovach</i>
10:30 am	<b>Single Ventricle complexes</b> <i>J. Kovach</i>
11:00 am	<b>Refreshment Break and Visit Exhibits</b> <i>Valencia Ballroom</i>

#### PART II

11:15 am	<b>Tetralogy of Fallot</b> <i>P. Gupta</i>
11:35 am	<b>Transposition Complexes</b> <i>P. Gupta</i>

# Schedule of Events

11:55 am	<b>Special Circumstances</b> <b>A. Eisenmenger's Syndrome</b> <b>B. The Pregnant Patient</b> <i>J. Kovach</i>
12:30 pm	<b>Lunch and Visit Exhibits</b> <i>Valencia Ballroom</i>
<b>CORONARY ARTERY DISEASE</b> <i>V. Rigolin, Presiding</i>	
2:00 pm	<b>Stress Echocardiography: The Right Way, the Wrong Way; 101 and Beyond</b> <i>V. Rigolin</i>
2:25 pm	<b>Contrast Enhanced Stress Echocardiogram: Those Little Details – Technique, Machine Settings and Reimbursement. How Can You Be Denied Reimbursement?</b> <i>M. Umland</i>
2:50 pm	<b>Case Studies in Stress Echocardiography.</b> Single vessel disease – <i>R.Lang</i> Subtle, but sure – single vessel disease – <i>H. Chaliki</i> Multi vessel disease – <i>V. Rigolin</i> False positive – <i>C. Kramer</i> Hypertensive response – <i>P. Sengupta</i> False negative – <i>M. Umland</i> Contrast enhanced saved the day – <i>P. Knoll</i> Contrast enhanced – BOO! – <i>M. Saric</i>
3:30 pm	<b>Acute Coronary Syndromes, Complications of Myocardial Infarction: Illustrative Cases</b> What ails the apex - <i>B. Khandheria</i> Right ventricle - <i>S. Goldstein</i> Lumps, bumps and OMG! - <i>B. Khandheria</i> Mitral valve - <i>S. Goldstein</i> I followed the ACC/AHA guidelines for use of echo in ACS and look what I got - <i>M. Saric</i>
4:40 pm	<b>Walks Like a Duck, Quacks Like a Duck, But is Not a Duck: What is Not CAD?</b> <i>B. Khandheria, S. Goldstein, R. Lang, M. Saric</i>
5:10 pm	<b>Question and Answer</b>
5:30 pm	<b>Adjourn</b>

## MONDAY, FEBRUARY 11, 2013

7:00 am	<b>Continental Breakfast and Visit Exhibits</b> <i>Valencia Ballroom</i>
<b>STRUCTURAL HEART DISEASE</b> <i>H. Chaliki, presiding</i>	
8:00 am	<b>What is Structural Heart Disease? Why Bother?</b> <i>R. Lang</i>
8:20 am	<b>Aortic Stenosis: The Changing Spectrum of the Disease and the Essential Role of Echocardiography</b> <i>B. Khandheria</i>
8:50 am	<b>Aortic Stenosis: What Images Should a Sonographer Acquire Pre- and Post-TAVR</b> <i>C. Kramer</i>

9:15 am	<b>TAVR: State-of-the-Art 2013</b> <i>B. Khandheria</i>
9:40 am	<b>Aortic Stenosis: Cases</b> Low gradient, normal function AS – <i>R. Lang</i> Subvalvular stenosis, supra valvular stenosis – <i>M. Saric</i> What is the source of error in this calculation? – <i>S. Goldstein</i> Oops, what is wrong here? – <i>M. Umland</i> Low output, low gradient AS – <i>I. Kronzon</i> Complication during TAVR – <i>P. Sengupta, I. Kronzon, S. Goldstein, B. Khandheria.</i>
10:40 am	<b>Refreshment Break and Visit Exhibits</b> <i>Valencia Ballroom</i>

## STRUCTURAL HEART DISEASE

*M. Saric, presiding*

11:10 am	<b>Aortic Regurgitation: Comprehensive Evaluation Using 2D and 3D Echocardiography; ERO, Vena Contracta and Visual Evaluation</b> <i>R. Lang</i>
11:35 am	<b>Pathologies of the Aortic Root, Aorta Causing Aortic Regurgitation. Illustrative Examples in 2D and 3D Imaging</b> <i>H. Chaliki</i>
11:50 am	<b>Morphologic Abnormalities of the Aortic Valve: Illustrative Examples</b> Quadricuspid valve - <i>C. Kramer</i> Bicuspid valve - <i>P. Knoll</i> Unicuspid valve - <i>G. Lammertin</i>
12:15 pm	<b>Aortic Regurgitation: Natural History, Timing of Operation and What Drugs to use, If Any</b> <i>S. Goldstein</i>
12:40 pm	<b>Question and Answer</b> <i>All Faculty</i>
1:00 pm	<b>Lunch and Visit Exhibits</b> <i>Valencia Ballroom</i>

## STRUCTURAL HEART DISEASE

*P. Sengupta, presiding*

2:15 pm	<b>Morpho-anatomy of the Mitral Valve</b> <i>R. Lang</i>
2:45 pm	<b>2D, 3D Evaluation of Mitral Regurgitation. How to Quantitate? What Pathologies Cause MR? Pitfalls of ERO. Is Vena Contracta Adequate?</b> <i>M. Saric</i>
3:20 pm	<b>Mitral Regurgitation and Ischemic Heart Disease: What Should an Echocardiographer Know? Are Quantification Values the Same as in Organic Heart Disease? Quantification of regurgitation</b> <i>R. Lang</i>

# Schedule of Events

3:45 pm	<b>Natural History of Mitral Regurgitation: Timing of Operation. Too Early? Too Late?</b> <i>B. Khandheria</i>
4:10 pm	<b>Illustrative Cases of Mitral Valve Pathology</b> Mitral clip and echocardiography - <i>B. Khandheria</i> Percutaneous mitral balloon valvuloplasty - <i>I. Kronzon</i> Mitral Stenosis: Pitfalls in calculation of severity - <i>M. Saric</i>
4:25 pm	<b>Question and Answer</b> Moderator: <i>P. Sengupta</i> <i>B. Khandheria, S. Goldstein R. Lang, V. Rigolin, I. Kronzon</i>
4:30 pm	<b>Break and Visit Exhibits</b> <i>Valencia Ballroom</i>

## STRUCTURAL HEART DISEASE

*H. Chaliki, presiding*

5:00 pm	<b>Tricuspid Regurgitation: Comprehensive 2D/ Doppler Evaluation Using the ASE Guidelines</b> <i>I. Kronzon</i>
5:25 pm	<b>Evaluating the Patient with Prosthetic Valves: What do the ASE Guidelines Recommend?</b> <i>B. Khandheria</i>
5:50 pm	<b>Case Studies</b> Percutaneous repair of paravalvular leaks – <i>I. Kronzon</i> Endocarditis on native valve – <i>R. Lang</i> Endocarditis on prosthetic material – <i>S. Goldstein</i> What is wrong with this patient tricuspid valve entrapment? – <i>P. Sengupta</i> What drug did this patient take to make the tricuspid valve sad? – <i>H. Chaliki</i> Mitral intervalvular fibrosa from endocarditis – <i>M. Saric</i>
6:25 pm	<b>Adjourn</b>
6:30 pm	<b>Welcome Reception</b> <i>Valencia Ballroom</i>

## TUESDAY, FEBRUARY 12, 2013

7:00 am	<b>Continental Breakfast and Visit Exhibits</b> <i>Valencia Ballroom</i>
7:30 am	<b>Early Bird Case Studies</b> <i>P. Knoll, presiding</i> 3 common errors in evaluating the LV systolic function – <i>P. Knoll</i> 3 common errors in evaluation of the LA – <i>C. Kramer</i> 3 challenging hemodynamic cases – <i>I. Kronzon</i>

## AORTA AND ATRIAL SEPTUM

*S. Goldstein, presiding*

8:30 am	<b>2D/3D Imaging of Aortic Aneurysm, Aortic Dissection, Aortic Transection</b> <i>H. Chaliki</i>
8:55 am	<b>My Patient Has Atherosclerosis of the Aorta: Should I Worry?</b> <i>I. Kronzon</i>
9:20 am	<b>I Found a PFO During a TEE. Implications, Closure?</b> <i>S. Goldstein</i>
9:45 am	<b>Rapid Fire Cases</b> Penetrating ulcer – <i>S. Goldstein</i> Is it ASD or PFO? – <i>V. Rigolin</i> Amyloid heart – <i>M. Saric</i> Hemochromatosis – <i>H. Chaliki</i> HIV and the heart – <i>P. Sengupta</i>
10:20 am	<b>Panel Discussion</b>
10:30 am	<b>Break and Visit Exhibits</b> <i>Valencia Ballroom</i>

## CASE STUDIES FROM THE OPERATING ROOM, INTERVENTIONAL LABORATORY

*M. Saric, Presiding*

11:00 am	<b>LA Appendage Occluders</b> <i>B. Khandheria</i>
11:15 am	<b>VSD Closure</b> <i>I. Kronzon</i>
11:30 am	<b>ASD, PFO Closure</b> <i>M. Saric</i>
11:45 am	<b>Mitral Valve Repair</b> <i>P. Sengupta</i>
12:00 pm	<b>Mystery case</b> <i>I. Kronzon</i>
12:15 pm	<b>Panel Discussion</b>
12:30 pm	<b>Hypertrophic Cardiomyopathy: Morphologic Variants. Role of Myocardial Mechanics</b> <i>S. Goldstein</i>
1:00 pm	<b>Lunch and Visit Exhibits</b> <i>Valencia Ballroom</i>
1:30 pm	<b>SPECIAL FEATURE: Game Show</b>

## HEART FAILURE: CARDIA RESYNCHRONIZATION AND LVAD

*H. Chaliki, presiding*

2:30 pm	<b>Essential Role of Echocardiography in Heart Failure with Reduced Function</b> <i>R. Lang</i>
2:55 pm	<b>CRT 2013: Optimization, Dyssynchrony, Myocardial Mechanic. Sonographer and Physician</b> <i>M. Umland, P. Sengupta</i>

# Schedule of Events

- 3:30 pm **LVAD: What and How**  
*C. Kramer, M. Umland*
- 3:55 pm **Case Studies in Heart Failure, LVAD**  
*V. Rigolin, H. Chaliki, P. Knoll, M. Saric*
- 4:30 pm **Adjourn**

## WEDNESDAY, FEBRUARY 13, 2013

- 7:30 am **Continental Breakfast and Visit Exhibits**  
*Valencia Ballroom*

### MYOCARDIAL AND PERICARDIAL DISEASE

*M. Saric, presiding*

- 8:00 am **Constrictive Pericarditis: How to Diagnose? Pitfalls in Diagnosis**  
*P. Sengupta*
- 8:20 am **Echo Guided Pericardiocentesis: Why? How To?**  
*S. Goldstein*
- 8:40 am **Isolated Non-Compaction of the Left Ventricle: 2013**  
*B. Khandheria*
- 9:00 am **Athlete's Heart: Echocardiographic Considerations**  
*R. Lang*
- 9:20 am **Cardio Oncology: Why? Who? How?**  
*B. Khandheria*
- 9:40 am **Panel Discussion**
- 10:00 am **Refreshment Break and Visit Exhibits**  
*Valencia Ballroom*

### Heart Failure with Preserved EF and Pulmonary Hypertension

*H. Chaliki, presiding*

- 10:30 am **Heart Failure with Preserved Systolic Function: Epidemiology, Pathophysiology and Diagnosis**  
*M. Saric*
- 10:50 am **Integrated Imaging in Pulmonary Hypertension**  
*V. Rigolin*
- 11:10 am **Illustrative Cases**  
Pulmonary hypertension - *M. Saric*  
Heart failure with preserved EF - *P. Sengupta*  
Pulmonary embolism - *V. Rigolin*  
What blood test identifies the cause - *H. Chaliki*  
I am sparkling and I have elevated filling pressure - *M. Saric*
- 11:45 am **Adjourn**

**See you next year at the 27th Annual  
State-of-the-Art Echocardiography!  
February 9 – 12, 2014  
Montelucia Resort and Spa  
Scottsdale, AZ**



**CONNECT with ASE**  
in Arizona

**NETWORK**  
with other attendees in a  
secured online community  
[Connect.asecho.org](http://Connect.asecho.org)  
Directory > My Communities > State-of-the-Art

**TWEET**  
your take-away thoughts  
#StateoftheArt

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# 26th Annual State-of-the-Art Echocardiography

## REGISTRATION FORM

February 10 – 13, 2013 • InterContinental Montelucia, Scottsdale, AZ

Your State-of-the-Art Echocardiography registration fee includes continental breakfasts, breaks, lunches, and a welcome reception.

Name: \_\_\_\_\_

*First Name*

*Middle Initial*

*Last Name*

Credential:  MD  DO  PhD  RN  RCS  RDCS  Other

ASE Member Number: \_\_\_\_\_

Institution: \_\_\_\_\_

Email Address: \_\_\_\_\_

*(All correspondence regarding your registration including your confirmation will be sent to this email address.)*

Which is your preferred mailing address?  Work/Business  Home

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State/Province: \_\_\_\_\_ Zip/Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

If you need disability accommodations, please check here and advise us of your needs at least two weeks before the program.

**Special Needs:** ASE encourages participation by all individuals. If you have a disability or other specific needs, advance notification will help ASE to better serve you. Please contact ASE by email at [ase@asecho.org](mailto:ase@asecho.org) or telephone at (919) 861-5574.

Special Dietary Needs: \_\_\_\_\_

### Registration Fees:

#### State-of-the-Art Echocardiography • February 10 – 13, 2013

ASE Physician Member (\$725)  Physician Non-Member (\$825)  ASE Sonographer/Allied Health Member\* (\$475)  Sonographer/Allied Health Non-Member\* (\$575)

*\*Registrants in the Allied Health category include Sonographers, Nurses, Physician Assistants, and Fellows in Training.*

One-day Rate (only one day can be selected)  \$250

Sunday  Monday  Tuesday  Wednesday

### Learning Lab • February 9 – 10, 2013

Attendees must register for this workshop in advance in order to attend due to limited seating available. More information on this workshop will be posted online.

ASE Member (\$325)  Non-Member (\$450)

### Payment Information

*Payment must accompany this form.*

Check (*payable to American Society of Echocardiography in U.S. dollars drawn on a U.S. bank*)

**Credit Card:**  Visa  MasterCard  American Express

Cardholder's Name: \_\_\_\_\_

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Credit Card Billing Address: \_\_\_\_\_

**Register online and receive an immediate receipt! [www.asecho.org/StateoftheArt](http://www.asecho.org/StateoftheArt)**

**American Society of Echocardiography**  
2100 Gateway Centre Blvd., Suite 310, Morrisville, NC 27560  
Telephone: (919) 861-5574, Fax: (919) 882-9900  
Email: [ase@asecho.org](mailto:ase@asecho.org), Web site: [www.asecho.org/StateoftheArt](http://www.asecho.org/StateoftheArt)



**ASE Foundation**

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Register now at [www.asecho.org/StateoftheArt](http://www.asecho.org/StateoftheArt)