February 10 – 13, 2013
Montelucia Resort & Spa
Scottsdale, AZ

Learning Lab
February 9 – 10, 2013

Course Co-Directors:
Roberto M. Lang, MD, FASE
Bijoy K. Khandheria, MD, FASE
Vera H. Rigolin, MD, FASE
Matt Umland, RDCS, FASE
Welcome Message

Welcome to the 26th State-of-the-Art Echocardiography, one of the premier echocardiography programs organized by the American Society of Echocardiography (ASE).

What can you expect? You can expect a first class faculty made up of physicians and sonographers presenting material that is clinically relevant and delivered in a fashion that will allow you to easily apply to your practice. Our luminary faculty will present innovations in education as they pertain to cardiovascular ultrasound imaging and hemodynamics, and their application to clinical cardiology. Be a part of a new learning experience featuring hands on quantitation on computers. The Learning Lab is designed to teach you, or sharpen your skills on basic and advanced hemodynamics, 3D, and myocardial mechanics - all taught in a small classroom with instructors who are renowned teachers. This is an intensive review of echocardiography not only for cardiovascular sonographers but also clinical cardiologists with special interest in echocardiography. Learn more about laboratory accreditation, how to take the cardiovascular sonography registry examination and how to apply new technologies in your practice.

Arizona offers rest and recreation with temperate weather. You’ll also be able to take advantage of the numerous hiking trails, including the famous “Camelback Mountain” within walking distance to the Montelucia. Much to do and much to enjoy.

Welcome to Scottsdale and the 26th State-of-the-Art Echocardiography!

Bijoy Khandheria and Roberto Lang

Course Co-Directors

Bijoy K. Khandheria, MD, FASE
Past President, ASE
Aurora Health Care, Milwaukee, WI

Roberto M. Lang, MD, FASE
Past President, ASE
University of Chicago, Chicago, IL

Vera H. Rigolin, MD, FASE
Northwestern University, Chicago, IL

Matt M. Umland, RDCS, FASE
Aurora Health Care, Milwaukee, WI

Program Faculty

Hari P. Chaliki, MD, FASE
Mayo Clinic, Scottsdale, AZ

Keith A. Collins, MS, RDCS
University of Chicago Medical Center, Chicago IL

Steven A. Goldstein, MD, FASE
MedStar Washington Hospital Center, Washington, DC

Pooja Gupta, MD, FASE
Detroit Medical Ctr, Detroit, MI

Richard A. Humes, MD, FASE
Children’s Hospital of Michigan, Detroit, MI

Peg Knoll, RDCS, FASE
University of California, Irvine-Healthcare, Orange, CA

Julie A. Kovach, MD, FASE
Wayne State University, Detroit, MI

Christopher J. Kramer, BA, RDCS
Aurora Health Care, Milwaukee, WI

Itzhak Kronzon, MD, FASE
Lenox Hill Hospital, New York, NY

Georgeanne Lammertin, MBA, RCS, RDCS, FASE
University of Chicago, Chicago, IL

Patricia A. Pellikka, MD, FASE
ASE President
Mayo Clinic, Rochester, MN

Muhamed Saric, MD, PhD, FASE
New York University, New York, NY

Partho P. Sengupta, MD, MBBS, DM, FASE
Mount Sinai Medical Center, New York, NY

About ASE

As the largest global organization for cardiovascular ultrasound imaging, The American Society of Echocardiography (ASE) is the leader and advocate, setting practice standards and guidelines. Comprised of over 15,000 physicians, sonographers, nurses and scientists, ASE is a strong voice providing guidance, expertise and education to its members with a commitment to improving the practice of ultrasound and imaging of the heart and cardiovascular system for better patient outcomes.

ASE Membership

ASE serves its members in numerous ways by providing education, advocacy, research, practice guidelines and a community for their profession. Did you know your ASE membership affords you over $400 of FREE credits a year, in addition to discounts on all ASE educational courses and products? Also included is a monthly subscription to the Journal of the American Society of Echocardiography (JASE), help with legislative coding and reimbursement issues and other career resources.
**Overview of State-of-the-Art Echocardiography**

**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. Participants should have a practical knowledge of echocardiography to benefit most fully from this program. Topics will include:

- Structural Heart Disease
- Interventional Echocardiography
- Application of Echocardiography in myocardial, pericardial and, coronary heart disease
- Integration of contrast enhanced imaging and, 3D imaging in daily practice of cardiovascular ultrasound
- Expanded Learning Laboratory

**New for 2013:**

- Expanded Learning Lab: A Road to Comprehensive Quantification Using ASE Guidelines: Learn valuable new skills in a focused, computer-based learning environment. Taught by expert faculty that allows for virtually private instruction from the top practitioners in the field. All materials will be based on ASE guidelines, standards and recommendations. Separate registration and fee is required for this preconference workshop. Attendance is limited to 80 participants.
- Game show: Test your echo skills.

**Objectives**

- To present established and emerging ultrasound imaging modalities and integrate information from these modalities to provide the highest level of quality care.
- To present information that thematically focuses on integrated, multidisciplinary care as an effective medical approach to provide the highest quality of patient care.
- To present recent advances in the diagnosis and treatment of cardiovascular disease to cardiovascular specialists and related health care professionals working in multidisciplinary teams.
- To provide opportunity for interaction among experts and practitioners in question and answer sessions related to daily practice.

Upon completion of this program, attendees should be better able to:

- Incorporate state-of-the-art clinical applications of echocardiography/Doppler ultrasound into clinical decision-making.
- Apply information about myocardial mechanics imaging into clinical decision making.
- Assess Doppler and color flow imaging quantitatively.
- Evaluate left ventricular function quantitatively (volumes, mass and ejection fraction).
- Explain the use of Doppler in the assessment of hemodynamics and diastolic function.
- Describe the value and limitations of contrast echocardiography.
- Utilize interoperative echocardiography through applied knowledge of methods, instrumentation and uses.
- Identify roles of cardiovascular ultrasound and apply ASE/ACC/AHA guidelines for valvular heart disease.
- Apply knowledge of 3D echocardiography into clinical practice.
- Explain the role of echocardiography in cardiac resynchronization therapy.

**Target Audience**

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

**Disclaimer**

The information provided during this CME activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's condition.

**Disclosure**

ASE is committed to ensuring that its educational mission, and all sponsored educational programs are not influenced by the special interests of any corporation or individual, and its mandate is to retain only those speakers whose financial interests can be effectively resolved to maintain the goals and educational integrity of the program. While a monetary or professional affiliation with a corporation does not necessarily influence a speaker's presentation, the Essential Areas and policies of the ACCME require that any relationship that could possibly conflict with the educational value of the program be resolved prior to the educational session and disclosed to the audience. In accordance with these policies, ASE implemented mechanisms prior to the planning and implementation of this CME activity to identify and resolve conflicts of interest for all individuals in a position to control content. Disclosure information is referenced and can be found beginning on page 13 of this program.

**Commercial Support Disclosure:**

**Educational Grants:** This activity is supported in part by educational grants from Sorin Group, Edwards Lifesciences, Biosense Webster, Actelion, Thoratec and Abbott Vascular.

**In-kind Donations:** This activity is supported in part by in-kind donations of software from GE, Philips and FUJIFILM Medical Systems USA, Inc.
Accreditation and Designation

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the American Society of Echocardiography and the ASE Education and Research Foundation. The American Society of Echocardiography is accredited by the ACCME to provide continuing medical education for physicians.

The American Society of Echocardiography designates this live activity for a maximum of 35.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ASE designates the State-of-the-Art Echocardiography Learning Lab for a maximum of 11 hours, and a maximum of 26 hours for the Main Conference. Attendees must have registered for the Learning Lab to claim full credit. The total amount of hours that can be claimed for attending both the Main Conference and Learning Lab is 35.25.

This activity has been reviewed by the Intersocietal Accreditation Commission (IAC) and is acceptable for up to 35.25 hours of CME credit toward IAC Echocardiography laboratory accreditation requirements.

ARDMS and CCI recognize ASE’s certificates and have agreed to honor the credit hours toward their registry requirements for sonographers.

The American Society of Echocardiography is committed to ensuring that its educational mission and all sponsored educational programs are not influenced by the special interests of any corporation or individual, and its mandate is to retain only those speakers whose financial interests can be effectively resolved to maintain the goals and educational integrity of the program. While a monetary or professional affiliation with a corporation does not necessarily influence a speaker’s presentation, the Essential Areas and policies of the ACCME require that any relationships that could possibly conflict with the educational value of the program be resolved prior to the educational session and disclosed to the audience.

Registration Location and Hours

Attendee registration is located outside the Alhambra Ballroom.

Friday, February 8, 2013 .................. 4:00 pm – 6:00 pm
Saturday, February 9, 2013 ............... 6:30 am – 5:30 pm
Sunday, February 10, 2013 ................. 7:00 am – 5:30 pm
Monday, February 11, 2013 ............... 6:30 am – 7:30 pm
Tuesday, February 12, 2013 ............... 6:30 am – 4:30 pm
Wednesday, February 13, 2013 ........... 7:00 am – 12:00 pm

How to Obtain Credit

Allowing for faster access to your CME certificate, ASE has developed an online process that will allow you to evaluate this course and receive an instant copy of your CME certificate.

To claim your CME, on the final day of the conference, please:

1. Go to www.prolibraries.com/ase/redeem
2. Redeem the Code: SOTA2013 Click Submit.
3. Verify attendance by providing your name and e-mail address.
4. Create an Account by completing the required fields. (If you already have an account with Prolibraries log in to the right. This is separate from you ASE membership account – if applicable.)
5. Click on “Conference Evaluation.”
6. Select the session you need to evaluate.
7. Complete the evaluation, and click “submit.” Make sure you fill in the evaluation completely as the credit hours are not earned until the entire evaluation has been completed.
8. Your “CE Transcript” can be accessed under “Your Account.”

You will have until March 13 to claim your credits online.

Food Functions

ASE will provide a continental breakfast, morning coffee breaks and afternoon refreshment breaks for registered attendees of the main conference in the Valencia Ballroom. Please refer to the program schedule on pages 6 – 10 for the times of the daily coffee breaks and continental breakfast.

ASE will provide lunch for registered attendees of the main conference in the Valencia Ballroom on Sunday, February 10th – Tuesday, February 12th. Lunch times may vary. Please refer to the program schedule on pages 6 – 9 for times.

The Montelucia Resort and Spa offers their guest a variety of dining options along with State-of-the-Art Echocardiography attendee discounts. Please see page 5 for more details.

Welcome Reception

ASE cordially invites you and your guests to the 26th Annual State-of-the-Art Echocardiography Welcome Reception on Monday evening, February 11, 2013 from 6:30 pm – 7:30 pm in the Valencia Ballroom. This casual reception welcomes you to “the heart of the Sonoran Desert” and offers you the perfect opportunity to meet faculty, friends and colleagues.

Cell Phone Use

Cell phones should not be used in the educational sessions. For consideration of faculty and other attendees, please remember to turn your cell phones and/or other electronic devices off or set to vibrate mode.
Location Information

Safety
Audience seating is on a first-come, first-served basis. According to fire code, a session must be closed if the room fills to capacity. Inappropriate behavior or undesirable conduct, including, but not limited to, verbal or physical abuse, whether threatened or performed, will not be permitted or tolerated. You must wear your name badge at all times when attending the session or events.

Photography/AV Policy
No person may record any portion of the 26th Annual State-of-the-Art Echocardiography, either by video, still or digital photography, audio or any other recording or reproduction mechanism. This includes recording of presentations and supporting audio visual materials.

Taking photos of, or recording the content of, presentation slides is also prohibited and is considered intellectual piracy. Attendees who ignore this policy will be asked to leave the educational session and are at risk of losing their name badge and attendance privileges.

ASE reserves the rights to all recordings or reproductions at ASE meetings. Please be aware that during the 26th Annual State-of-the-Art Echocardiography, attendees, vendors, guests and exhibitors may be photographed or videotaped by ASE staff capturing the event. Some of these photographs or videos may be displayed by ASE in future publication or other materials.

By virtue of your attendance, you agree to allow ASE to use photographs of you in its promotional materials.

Children
ASE does not offer childcare services. Due to limited seating capacity and the highly technical nature of this program, children are not allowed to attend the educational session. For their safety, children must be accompanied by an adult at all times when attending the course events.

Scottsdale, Arizona
When it comes to unique experiences, Scottsdale has you covered with boredom-busting options that run the gamut from world-class museums and a renowned botanical garden to guided city tours, architectural wonders and the nation’s largest wilderness preserve.

You’ll also find culinary attractions like a working olive mill and a winery where you can create your own special blend. Amusement parks, an award-winning zoo and a railroad museum appeal to kids of all ages. And for those hankering for a taste of Scottsdale’s frontier roots, the state’s largest remake of a 1880s Western town is just minutes away.

Montelucia Resort and Spa
The Montelucia Resort and Spa is happy to extend these special discounts for all ASE attendees:

- $50 credit valid towards a future stay at the resort, valid 3/1/2013 – 1/31/14. Based on availability
- Complimentary internet access (subject to hotel terms and conditions)
- Complimentary fitness center access
- Complimentary self-parking
- 10% discount on spa services (Sunday); 20% discount on spa services (Monday – Wednesday)
- Complimentary appetizer or dessert in Prado restaurant
- Complimentary cup of coffee or gelato in Crave Café

To receive these discounted offers, please receive coupons at hotel check-in.

Montelucia Resort and Spa Dining Options

- CENTRO Lounge: Located off the resort’s Kasbah Pool, CENTRO Lounge is the center of campus gathering spot for Montelucia’s sophisticated and high-energy crowd. Guests will enjoy music and media as they lounge in the modern, posh space and sip on classic and signature libations. Montelucia’s CENTRO Lounge has transformed into the reimagined space with a fresh and innovative restaurant menu from Executive Chef Michael Cairns. A nine-panel media wall with indoor seating and lounge clusters expand in to the outdoor space. Enjoy the views of Camelback Mountain, gather around the fire pits and enjoy the Scottsdale Lifestyle.

- Crave Café: Coffee, gelato, chocolate and more. This Scottsdale café and gourmet food market serves Lavazza coffee drinks, house made gelato, fresh Tammie Coe baked goods, to-go food items, unique wines, gourmet foods and retail. Designed with local residents in mind, Crave features an outdoor patio with limited seating for those who would like to stop by, sit outside and take in the beautiful surroundings. The outdoor fireplace may keep you warm in the winter, but an array of events will keep you coming back to Crave all year long.

- Prado: Award-winning Prado Restaurant, Montelucia Resort & Spa’s signature restaurant, located in the heart of the resort, is filled with character and relaxed elegance. Prado presents guests an inventive menu of contemporary cuisine prepared with the freshest and best ingredients found locally and beyond. Offering a tantalizing selection of small and large plates, Prado’s menu showcases creativity, versatility and talent for masterfully layering flavors from around the world, served in an intimate setting perfect for gathering with family and friends. Prado opens its doors to guests for breakfast, lunch and dinner 7 days a week.
### Schedule of Events

#### Learning Lab
**SATURDAY, FEBRUARY 9, 2013**

**A Road to Comprehensive Quantification Using ASE Guidelines** *(Additional fee is required for this special session ending on Sunday at 11:30am)*

**Location:** Castillo Lucena

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

#### SUNDAY, FEBRUARY 10, 2013

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

**Location:** Castillo Lucena

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

#### Main Conference
**SUNDAY, FEBRUARY 10, 2013**

**Location:** Alhambra Ballroom

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

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

*R. Humes, presiding*

**Location:** Alhambra Ballroom

<table>
<thead>
<tr>
<th>Part</th>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
</table>
| **PART I** | 9:15 am | **Adults with Congenital Heart Disease**  
 *J. Kovach* |
|        | 9:30 am | **ASD, VSD**  
 *R. Humes* |
|        | 10:00 am | **AV Canal**  
 *R. Humes* |
|        | 10:15 am | **Coarctation**  
 *J. Kovach* |
|        | 10:30 am | **Single Ventricle complexes**  
 *J. Kovach* |
|        | 11:00 am | **Refreshment Break and Visit Exhibits**  
 *Valencia Ballroom* |
| **PART II** | 11:15 am | **Tetralogy of Fallot**  
 *P. Gupta* |
|        | 11:35 am | **Transposition Complexes**  
 *P. Gupta* |
## Schedule of Events

### MONDAY, FEBRUARY 11, 2013

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am</td>
<td>Continental Breakfast and Visit Exhibits</td>
</tr>
<tr>
<td></td>
<td>Valencia Ballroom</td>
</tr>
<tr>
<td>8:00 am</td>
<td>What is Structural Heart Disease? Why Bother?</td>
</tr>
<tr>
<td></td>
<td>R. Lang</td>
</tr>
<tr>
<td>8:20 am</td>
<td>Aortic Stenosis: The Changing Spectrum of the Disease and the Essential Role of Echocardiography</td>
</tr>
<tr>
<td></td>
<td>B. Khandheria</td>
</tr>
<tr>
<td>8:50 am</td>
<td>Aortic Stenosis: What Images Should a Sonographer Acquire Pre- and Post-TAVR</td>
</tr>
<tr>
<td></td>
<td>C. Kramer</td>
</tr>
<tr>
<td>9:15 am</td>
<td>TAVR: State-of-the-Art 2013</td>
</tr>
<tr>
<td></td>
<td>B. Khandheria</td>
</tr>
<tr>
<td>9:40 am</td>
<td>Aortic Stenosis: Cases</td>
</tr>
<tr>
<td></td>
<td>Low gradient, normal function AS – R. Lang</td>
</tr>
<tr>
<td></td>
<td>Subvalvular stenosis, supra valvular stenosis – M. Saric</td>
</tr>
<tr>
<td></td>
<td>What is the source of error in this calculation? – S. Goldstein</td>
</tr>
<tr>
<td></td>
<td>Oops, what is wrong here? – M. Umland</td>
</tr>
<tr>
<td></td>
<td>Low output, low gradient AS – I. Kronzon</td>
</tr>
<tr>
<td></td>
<td>Complication during TAVR – P. Sengupta, I.Kronzon, S. Goldstein, B. Khandheria</td>
</tr>
<tr>
<td>10:40 am</td>
<td>Refreshment Break and Visit Exhibits</td>
</tr>
<tr>
<td></td>
<td>Valencia Ballroom</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Aortic Regurgitation: Comprehensive Evaluation Using 2D and 3D Echocardiography; ERO, Vena Contracta and Visual Evaluation</td>
</tr>
<tr>
<td></td>
<td>R. Lang</td>
</tr>
<tr>
<td>11:10 am</td>
<td>Pathologies of the Aortic Root, Aorta Causing Aortic Regurgitation. Illustrative Examples in 2D and 3D Imaging</td>
</tr>
<tr>
<td></td>
<td>H. Chaliki</td>
</tr>
<tr>
<td>11:35 am</td>
<td>Aortic Stenosis: Cases</td>
</tr>
<tr>
<td></td>
<td>Quadricuspid valve - C. Kramer</td>
</tr>
<tr>
<td></td>
<td>Bicuspid valve - P. Knoll</td>
</tr>
<tr>
<td></td>
<td>Supra Aortic Valve Stenosis - G. Lammertin</td>
</tr>
<tr>
<td>11:50 am</td>
<td>Aortic Regurgitation: Natural History, Timing of Operation and What Drugs to use, If Any</td>
</tr>
<tr>
<td></td>
<td>S. Goldstein</td>
</tr>
<tr>
<td>12:15 pm</td>
<td>Question and Answer</td>
</tr>
<tr>
<td></td>
<td>All Faculty</td>
</tr>
<tr>
<td>12:40 pm</td>
<td>Lunch and Visit Exhibits</td>
</tr>
<tr>
<td></td>
<td>Valencia Ballroom</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>Lunch and Visit Exhibits</td>
</tr>
<tr>
<td></td>
<td>Valencia Ballroom</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>Morpho-anatomy of the Mitral Valve</td>
</tr>
<tr>
<td></td>
<td>R. Lang</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>2D, 3D Evaluation of Mitral Regurgitation. How to Quantitate?</td>
</tr>
<tr>
<td></td>
<td>What Pathologies Cause MR? Pitfalls of ERO. Is Vena Contracta Adequate?</td>
</tr>
<tr>
<td></td>
<td>M. Saric</td>
</tr>
<tr>
<td>3:20 pm</td>
<td>Mitral Regurgitation and Ischemic Heart Disease:</td>
</tr>
<tr>
<td></td>
<td>What Should an Echocardiographer Know? Are Quantification Values the Same as in Organic Heart Disease?</td>
</tr>
<tr>
<td></td>
<td>Quantification of regurgitation</td>
</tr>
<tr>
<td></td>
<td>R. Lang</td>
</tr>
</tbody>
</table>
3:45 pm | Natural History of Mitral Regurgitation: Timing of Operation. Too Early? Too Late?  
B. Khandheria
---
4:10 pm | Illustrative Cases of Mitral Valve Pathology  
Mitral clip and echocardiography - B. Khandheria  
Percutaneous mitral balloon valvuloplasty - I. Kronzon  
Mitral Stenosis: Pitfalls in calculation of severity - M. Saric
---
4:25 pm | Question and Answer  
Moderator: P. Sengupta  
All Faculty
---
4:30 pm | Break and Visit Exhibits  
Valencia Ballroom
---

**STRUCTURAL HEART DISEASE**

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

**TUESDAY, FEBRUARY 12, 2013**
---
7:00 am | Continental Breakfast and Visit Exhibits  
Valencia Ballroom
---
7:30 am | Early Bird Case Studies  
P. Knoll, presiding  
3 common errors in evaluating the LV systolic function – P. Knoll  
3 common errors in evaluation of the LA – C. Kramer  
3 challenging hemodynamic cases – I. Kronzon
---

**HEART FAILURE: CARDIA RESYCHRONIZATION AND LVAD**

*H. Chaliki, presiding*
---
2:30 pm | Essential Role of Echocardiography in Heart Failure with Reduced Function  
R. Lang
---
2:55 pm | CRT 2013: Optimization, Dyssynchrony, Myocardial Mechanic. Sonographer and Physician  
M. Umland, P. Sengupta
---
3:30 pm | Isolated Non Compaction or not so isolated: 2013  
B. Khandheria
---
### Schedule of Events

#### 3:55 pm
**Case Studies in Heart Failure, LVAD**
*V. Rigolin, H. Chaliki, P. Knoll, M. Saric*

#### 4:30 pm
**Cardio Oncology: Why, Who, How?**
*B. Khandheria*

#### 5:00 pm
**Adjourn**

#### WEDNESDAY, FEBRUARY 13, 2013

#### 7:00 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
**LVAD: What and How**
*C. Kramer, M. Umland*

#### 9:20 am
**Athlete's Heart: Echocardiographic Considerations**
*R. Lang*

#### 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 15 – 18, 2014**

**Hyatt Regency Scottsdale Resort and Spa Scottsdale, AZ**
Exhibit Location and Hours
Exhibits are located in the Valencia Ballroom during the dates and hours listed below.

Sunday, February 10
11:00 am – 11:30 am
12:30 pm – 2:00 pm
Monday, February 11
7:00 am – 8:00 am
10:40 am – 11:10 am
1:00 pm – 2:15 pm
4:30 pm – 5:00 pm
6:30 pm – 7:30 pm
Tuesday, February 12
7:00 am – 8:00 am
10:30 am – 11:00 am
1:00 pm – 2:00 pm
Wednesday, February 13
7:00 am – 8:00 am
10:00 am – 10:30 am

Exhibitor Descriptions
(As of January 7, 2013)

American Society of Echocardiography (ASE)
2100 Gateway Centre Blvd., Suite 310
Morrisville, NC 27560
United States
Phone: 1-919-861-5574
Fax: 1-919-882-9900
Web Site: www.asecho.org

Epsilon Imaging, Inc.
3917 Research Park Drive, Suite B7
Ann Arbor, MI 48108
United States
Phone: 1-734-369-5100
Fax: 1-734-369-5120
Web Site: www.epsilon-imaging.com
Epsilon Imaging is developing vendor-neutral Computer-Aided Visualization and Analysis (CAVA) software applications for cardiovascular ultrasound. Our initial application, Epsilon CAVA for Stress Echo, assists echocardiologists to efficiently indicate specific areas of abnormality ultimately improving confidence in stress echocardiology.

Esaote North America
8000 Castleway Drive
Indianapolis, IN 46250
United States
Phone: 1-317-813-6000
Toll Free: 1-800-428-4374
Fax: 1-317-813-6600
Web Site: www.esaoteusa.com
Esaote North America, a market leader in diagnostic portable and console-based ultrasound systems, offers the MyLab® series, a high-performance ultrasound family. The MyLab line provides comprehensive diagnoses, offers excellent value and features high-level functionality. The platform offers a common user interface, shared probes and full digital workflow capability.

Digisonics
3701 Kirby Drive
Houston, TX 77098
United States
Phone: 1-713-529-7979
Toll Free: 1-800-940-3240
Fax: 1-713-529-7999
Web Site: www.digisonics.com
For over 35 years, Digisonics has provided cardiovascular image management and structured reporting systems. Ranked #1 Cardiology PACS by KLAS for the past four years, the DigiView system is the solution chosen by clinicians to gain workflow efficiency, cut costs and improve the quality of patient care.

GE Healthcare
9900 W. Innovation Drive
Wauwatosa, WI 53226
United States
Phone: 1-414-721-3096
Fax: 1-414-721-3866
Web Site: www.gehealthcare.com
GE’s “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality and efficiency around the world. GE Healthcare employs more than 46,000 people committed to serving healthcare professionals and their patients.
SIEMENS Healthcare
51 Valley Stream Parkway
Malvern, PA 19355
United States
Toll Free: 1-888-826-9702
Fax: 1-610-440-4159
Web Site: www.usa.siemens.com/healthcare

Siemens is one of the world’s largest suppliers to the healthcare industry. It is a renowned medical solutions provider with competence and innovative strength in diagnostic and therapeutic technologies. Siemens Healthcare delivers solutions across the entire continuum of care – from prevention and early detection, to diagnosis, therapy and care.

Lantheus Medical Imaging, Inc.
331 Treble Cove Road
North Billerica, MA 01862
United States
Phone: 1-928-444-3065
Fax: 1-978-436-7509
Web Site: www.lantheus.com

Lantheus Medical Imaging www.lantheus.com is a global leader in developing, manufacturing and distributing innovative diagnostic imaging agents to improve treatment of human disease. Lantheus has approximately 600 employees worldwide with headquarters in North Billerica, Massachusetts, and offices in Puerto Rico, Canada and Australia.

Lippincott, Williams & Wilkins
Two Commerce Square
2001 Market Street
Philadelphia, PA 19103
United States
Phone: 1-518-258-9234
Fax: 1-518-893-0553
Web Site: www.wolterskluwer.com

Lippincott Williams & Wilkins is the proud publisher of the Journals of the American Heart Association, including Circulation: Cardiovascular Imaging. We offer a full range of specialized books, journals and electronic media. Visit us today.
Faculty Disclosure

The following faculty members do not have any relationships with industry/commercial supporters to disclose:

Hari P. Chaliki, MD, FASE  
Keith A. Collins, MS, RDACS  
Steven A. Goldstein, MD, FASE  
Pooja Gupta, MD, FASE  
Richard A. Humes, MD, FASE  
Bijoy Khandheria, MD, FASE  
Julie A. Kovach, MD, FASE  
Christopher J. Kramer, BA, RDACS  
Georgeanne Lammertin, MBA, RCS, RDACS, FASE  
Patricia A. Pellikka, MD, FASE  
Vera H. Rigolin, MD, FASE  
Muhamed Saric, MD, PhD, FASE  
Matt Umland, MD, FASE

The following faculty members do have financial relationships with industry/commercial supporters to disclose:

Peg Knoll, RDACS, FASE – Lantheus (Speakers’ Bureau)  
Itzhak Kronzon, MD, FASE – Philips Healthcare (Receives Honoraria)  
Roberto M. Lang, MD, FASE – Philips (Research Grant)  
Partho Sengupta, MD, FASE – Forest Lab (Research Grant)

The following members of the ASE ACCME/CME Committee, Education Committee and Board of Directors (not serving as faculty) do not have any relationships with industry/commercial supporters to disclose:

Dennis Atherton, RDACS, RCT, RRT, FASE  
Piers Barker, MD, FASE  
Merri L. Bremer, RN, RDACS, FASE  
Roslyn Brosier, RDACS, RCS, RVs, RCT, FASE  
Benjamin Byrd, III, MD, FASE  
Joe Calkins, Jr., MD  
Joao Cavalcante, MD  
Meryl Cohen, MD, FASE  
Benjamin Eidem, MD, FASE  
David Forst, MD, FASE  
Kathryn Glas, MD, FASE  
Susan Grauer, MD  
Richard Grimm, DO, FASE  
Rebecca Hahn, MD, FASE  
Jorge Han, MD, RDMS, RDACS, RCT  
Kenneth Horton, RCS, RDACS, FASE  
Bonnie Kane, RDACS, FASE  
Barry Karon, MD, FASE  
Kathleen Kendall, RDACS, FASE  
Wyman Lai, MD, MPH, FASE  
Sue Maisey, MBA, RDACS, RCS, FASE  
Sunil Mankad, MD, FASE  
Judy Mangion, MD, FASE  
Marti McCulloch, MBA, BS, RDACS, FASE  
Sally Miller, RDACS, RT(R), FASE

L. LuAnn Minich, MD, FASE  
Reid Muller, MD  
Sherif Nagueh, MD, FASE  
Vijay Nambi, MD, FASE  
Troy Olsen  
Richard Palma, RDACS, RCS, APS, FASE  
Margaret Park, RDACS, RVs, FASE  
Priscilla Peters, BA, RDACS, FASE  
Scott Reeves, MD, FASE  
Tabby Riley, RDACS, FASE  
Lawrence Rudski, MD, FASE  
Thriveni Sangala, MD, FASE  
Marielle Scherrer-Crosbie, MD, PhD, FASE  
Wendy Sowa-Maldarelli, RDACS, RT, FASE  
Gabriella Strachan, RDACS, FASE  
Madhav Swaminathan, MD, FASE  
James Thomas, MD, FASE  
Christopher Troianos, MD  
Thomas Van Houten, RDACS, FASE  
Zuyue Wang, MD, FASE  
Neil Weissman, MD, FASE  
Danita Yoerger Sanborn, MD, FASE

The following members of the ASE ACCME/CME Committee, Education Committee and Board of Directors (not serving as faculty) have relationships with industry/commercial supporters to disclose:

Susan Wiegens, MD, FASE – Merck (Spouse Employment, Stock Ownership)  
Vijay Nambi, MD, FASE – GE (Research - no finances), TomTec (Research - no finances)  
Mani Vannan, MBBS, FASE – Siemens (Speakers’ Bureau, Consultant, Research Support); Lantheus (Speakers’ Bureau, Consultant, Research Support)  
Katherine Grichnik, MD, FASE – Digital Derm (Stock Ownership); Genentech (Consultant); PELI (Stock Ownership)  
Juan Villafane, MD – (Material transfer agreement with Lantheus)

All members of the ASE staff who were involved in the planning and implementation of this activity do not have any relationships with industry/commercial supporters to disclose:

Brandi Delany, Meeting Planner  
Beth Fulk, Meetings Department Manager  
Hilary Lamb, Chief Operating Officer  
Robin Wiegerink, Chief Executive Officer  
Cheryl Williams, Education Manager
ASE would like to thank its 26th Annual State-of-the-Art Echocardiography 2013 supporters

Abbott Vascular
Actelion
Edwards Lifesciences
Thoratec
Biosense Webster
Sorin Group

and 2013 Industry Round Table members

GE Healthcare
Lantheus Medical Imaging
Philips Healthcare
Toshiba America Medical Systems

Mark your calendar for next year’s 27th Annual State-of-the-Art Echocardiography

February 15 – 18, 2014
Hyatt Regency Scottsdale Resort and Spa
Scottsdale, AZ