

State-of-the-Art ECHOCARDIOGRAPHY

32nd ANNUAL

ADVANCE PROGRAM

February 16–18, 2019

Optional Learning Lab

February 15–16, 2019

**Paradise Point Resort & Spa
San Diego, CA**

NEW FOR 2019

- » Expanded Computer-based Session
- » Sonographer-only Session
 - » TMVR, TAVR, LAA Occlusion Cases
 - » Advanced Strain Imaging

Course and Learning Lab Director

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

Course Co-Director

William A. Zoghbi, MD, FASE
Past President, ASE
Houston Methodist Hospital
Houston, TX

Learning Lab Co-Director

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

Register now at ASEcho.org/SOTA



Jointly Provided by ASE and the ASE Foundation

Program Information

Overview of State-of-the-Art Echocardiography

This year's program follows the themes of structural heart disease, myocardial and pericardial disease, coronary artery disease, and interventional echocardiography. During the course, over 100 cases will be presented by the expert faculty to highlight what echo brings to each theme, help clinicians recognize and avoid common errors and pitfalls, and learn how to apply the guidelines in a practical manner. Workshops on TAVR and TMVR, the two emerging therapeutic approaches for valvular heart disease, will be a highlight of this course.

The faculty consists of recognized leaders in the field of echocardiography acclaimed for their teaching abilities. Participants will have the opportunity to interact with the faculty one-on-one in the Computer-based Learning Lab featuring advanced hemodynamics, 3D, and myocardial strain imaging including plenty of case studies to practice. Live imaging demonstrations will focus on acquisition techniques for 3D and myocardial strain imaging.

TAVR and TMVR Workshop

A transcatheter aortic and mitral valve replacement workshop on Saturday afternoon offers an in-depth exploration of the use of echocardiographic imaging in valve disease. As patients become more familiar with valve disease and intervention and more centers are performing these complicated procedures, it is important for practitioners to become more comfortable with diagnosis, intervention, and monitoring.

Learning Lab Session *(Additional Fee Required)*

A learning lab will be offered for a full day on Friday, February 15 and a half day on Saturday, February 16, 2019. Separate registration is required, and this session is included in the total hours of educational content offered at the course.

Limited to 100 registrants, this intimate workshop allows 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 nearly private instruction from top practitioners in the field.

Who Should Attend

State-of-the-Art Echocardiography's 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.

Course Registration

Registration fees include breakfasts, lunches, breaks, access to course materials, and CME credits and MOC points. ASE members take advantage of reduced registration fees as a benefit of membership. Register online at ASEcho.org/SOTA.

ASE Membership

Nonmember registrants for the 32nd Annual State-of-the-Art Echocardiography course will receive a complimentary ASE membership through December 31, 2019, with their registration. This membership is only available to those who have never been a member of ASE. ASE serves its members in numerous ways by providing education, advocacy, research, practice guidelines, and a community for their profession. ASE membership includes over \$750 of FREE CME 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), access to CASE, ASE's online case reports journal, help with legislative coding and reimbursement issues, and other career resources. A plethora of online tutorials, webinars, and other educational activities make membership beneficial to echocardiographers located around the world. View the extensive list of member benefits at ASEcho.org.

Learning Objectives

Upon completion of this course, participants will be better able to:

- Incorporate state-of-the-art clinical applications of echocardiography and Doppler ultrasound into clinical decision-making
- Utilize echocardiography in valvular heart disease
- Evaluate patients prior to, during, and following various structural heart disease procedures such as TAVR, mitral clip, and left atrial appendage closure
- Perform a 3D acquisition and measurement of biventricular size and function; and have a better understanding of the "knobology"
- Explain the new diastolic function guidelines
- Assess left ventricular function with state-of-the-art echocardiographic technology including strain imaging

"Overall, excellent course. Enjoyed the ability to interact with faculty. Excellent cases and lectures, as well."

Past State-of-the-Art attendee

Accreditation and Designation

The American Society of Echocardiography is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. Pending approval of 34.25 AMA PRA Category 1 Credits™.



Maintenance of Certification in Anesthesiology Program® and MOCA® are registered certification marks of the American Board of Anesthesiology®. MOCA 2.0® is a trademark of the American Board of Anesthesiology®.

San Diego

California's second largest city and the United States' eighth largest, San Diego is renowned for its idyllic climate, 70 miles of pristine beaches, and a dazzling array of world-class family attractions. Popular attractions include the world-famous San Diego Zoo and San Diego Zoo Safari Park, SeaWorld San Diego, and LEGOLAND California. With an average temperature of 72 degrees year-round, San Diego offers an expansive variety of things to see and do, appealing to guests of all ages from around the world.

Paradise Point Resort & Spa

Paradise Point, San Diego's island resort, is a private 44-acre island tucked away on gentle Mission Bay, minutes from the heart of downtown San Diego. The California beach bungalow-style guest rooms are amidst lush, tropical gardens, and meandering lagoons making this the perfect Southern California resort. You are sure to relax comfortably in the tranquil bayside bungalows, featuring breezy patios with striking views.

Paradise Point features one mile of sandy beach next door to SeaWorld. Scattered across the island, you will find plenty to do with five swimming pools, beach bonfire pits, a marina, five dining venues, and an award-winning spa.

ASE has secured a block of rooms at a discounted rate of \$234 a night. Rooms reserved in the ASE room block will receive the Passport to Paradise, a resort value program that includes high-speed wireless or hard-wired guest room internet, unlimited use of the fitness center, all local and domestic phone calls, and use of guest recreation items such as bocce ball, tennis, basketball, horseshoes, croquet, and ping pong. To make your reservations, please call 800-344-2626 before January 15, 2019 to get this special price and the Passport to Paradise.



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University of Chicago Medical Center
Chicago, IL

Faculty

Theodore P. Abraham, MD, FASE

University of California
San Francisco, CA

Anthony N. DeMaria, MD, FASE

Past President, ASE
University of California San Diego
La Jolla, CA

Judy W. Hung, MD, FASE

Massachusetts General Hospital
Boston, MA

Chris J. Kramer, ACS, RDCS, FASE

Aurora Health Care
Milwaukee, WI

Jonathan R. Lindner, MD, FASE

President, ASE
Oregon Health & Science University
Portland, OR

Stephen H. Little, MD, FASE

Houston Methodist Hospital
Houston, TX

Associate Faculty

Hillary S. Huisheere, RDCS, RVT

Aurora Health Care
Milwaukee, WI

Denise Ignatowski, BS, RDCS

Aurora Health Care
Milwaukee, WI

Vera H. Rigolin, MD, FASE

Past President, ASE
Northwestern University
Chicago, IL

David R. Rubenson, MD, FASE

Scripps Clinic
San Diego, CA

Muhamed Saric, MD, PhD, FASE

New York University
New York, NY

Matt M. Umland, ACS, RDCS, FASE

Aurora Health Care
Milwaukee, WI

Megan Yamat, RDCS, RCS, FASE

University of Chicago Medical Center
Chicago, IL

Renuka Jain, MD

Aurora Health Care
Milwaukee, WI

Sarah M. Roemer, BS, RDCS

Aurora Health Care
Milwaukee, WI

FRIDAY, FEBRUARY 15, 2019

7:00 AM **Registration and Breakfast**

LEARNING LAB (additional fee required)

7:45 AM **Introduction to Learning Labs and Faculty**
B. Khandheria, R. Lang, M. Umland

8:00 AM **Basic Measurements, the Right Way: Left Ventricular, Left Aorta, Left Atrium**
B. Khandheria, S. Roemer

8:45 AM **Basic Measurements for the Right Heart (2D, Doppler)**
R. Lang, M Yamat

9:30 AM **Fundamentals of Strain Imaging**
B. Khandheria, C. Kramer

10:15 AM **Refreshment Break for Learning Lab Attendees**

10:30 AM **Left Aorta Strain, Right Ventricular Strain, and Left Ventricular Strain**
B. Khandheria, M. Umland

11:30 AM **Case Studies in Strain Imaging and Right Heart Imaging**
H. Huisheere, S. Roemer, M Yamat

12:30 PM **Lunch for Learning Lab Attendees**

1:15 PM **Fundamentals of 3D/4D Imaging**
R. Lang, M Yamat

2:15 PM **Imaging Morphology and Function of Mitral Valve**
R. Lang, M Yamat

3:15 PM **Refreshment Break for Learning Lab Attendees**

3:30 PM **Imaging Requirements for Transcatheter Mitral Valve Repair/CLIP**
B. Khandheria, S. Roemer

4:15 PM **Imaging Morphology and Function of Aortic Valve**
D. Ignatowski, R. Lang

5:15 PM **Not Tired Yet? Case Studies in Valve Disease**
H. Huisheere, C. Kramer, R. Lang, M Yamat

6:15 PM **Adjourn**

SATURDAY, FEBRUARY 16, 2019

7:00 AM **Registration and Breakfast**

LEARNING LAB (additional fee required)

7:30 AM **Diastolic Function: Basic and Advanced**
B. Khandheria, M. Umland

8:15 AM **3D of the Tricuspid Valve**
R. Lang, M Yamat

9:00 AM **Hypertrophic Cardiomyopathy and Left Ventricular Noncompaction**
B. Khandheria, S. Roemer

9:45 AM **Refreshment Break**

10:15 AM **Dilated Cardiomyopathy: Essential Measurements, the Right Way**
R. Lang, M Yamat

11:00 AM **Unusual Cardiomyopathies**
H. Huisheere, C. Kramer, R. Lang

11:45 AM **Left Ventricular Assist Device: What You Need to Know**
H. Huisheere, B. Khandheria, C. Kramer, M. Umland

12:30 PM	Lunch for Learning Lab Attendees
1:30 PM	Hypertension: Essential Measurements <i>B. Khandheria, S. Roemer</i>
2:00 PM	Cornucopia of Cases <i>All faculty</i>
3:00 PM	Adjourn

MAIN CONFERENCE

4:30 PM	Welcome <i>B. Khandheria, W. Zoghbi</i>
4:45 PM	President's Address: State of ASE <i>J. Lindner</i>

CONTRAST ECHO

5:00 PM	Contrast Echocardiography: Historical Perspective <i>A. DeMaria</i>
5:15 PM	Contrast Echocardiography: Current Status, No Future ... Please <i>J. Lindner</i>
5:30 PM	Dinner on Your Own

ECHO ENTHUSIAST

6:30 PM	Case Studies in Contrast Enhanced Imaging <i>D. Ignatowski, J. Lindner, M. Yamat</i>
7:00 PM	Hypertension Cases: Guidelines Say What Echo Should Get <i>R. Jain</i>
7:20 PM	Did You Know These Can Cause Secondary Hypertension? <i>D. Rubenson</i>
7:40 PM	Regional Wall Motion Analysis: Read With Me <i>A. DeMaria</i>
8:00 PM	Adjourn

SUNDAY, FEBRUARY 17, 2019

7:30 AM	Registration, Breakfast, and Visit Exhibits
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STRUCTURAL HEART DISEASE I

Moderator: *V. Rigolin*

8:00 AM	Aortic Stenosis Cases: Low-Gradient, Normal Function and Low-Gradient, Reduced Function <i>B. Khandheria</i>
8:20 AM	Commonly Encountered Errors in Gradient and Valve Area <i>D. Ignatowski</i>
8:40 AM	TAVR: What to Measure Pre- and Post-TAVR: What is a Sweep? <i>S. Roemer</i>
9:00 AM	Examples Showing Complications from TAVR <i>M. Saric</i>

9:20 AM	MitraClip: Preprocedural Echo Cases <i>V. Rigolin</i>
9:40 AM	MitraClip: Intraprocedural Cases <i>S. Little</i>
10:00 AM	Morphologic Variants of Aortic Valve Examples <i>M. Umland</i>
10:20 AM	Subvalvular and Supravalvular Aortic Stenosis <i>J. Hung</i>
10:40 AM	Question and Answer <i>Panel</i>
10:45 AM	Refreshment Break and Visit Exhibits

STRUCTURAL HEART DISEASE II

Moderator: *R. Jain*

11:15 AM	Morpho Anatomy of Tricuspid Valve <i>R. Lang</i>
11:35 AM	Case Studies Showing Different Causes of Tricuspid Regurgitation <i>J. Hung</i>
11:55 AM	3D Printing in Structural Heart Disease <i>S. Little</i>
12:15 AM	Step-by-Step Examples to Measure Pulmonary Pressure <i>S. Roemer</i>
12:35 PM	Lunch and Visit Exhibits

STRUCTURAL HEART DISEASE III

Moderators: *S. Little, D. Rubenson*

1:35 PM	Left Atrial Appendage Closure: Preprocedure <i>M. Saric</i>
1:55 PM	Left Atrial Appendage Closure: Intraprocedure <i>R. Jain</i>
2:15 PM	Transcatheter Mitral Replacement Cases: Essential Measurements <i>V. Rigolin</i>
2:35 PM	Mitral Regurgitation and Aortic Regurgitation: Key Measurements <i>W. Zoghbi</i>
2:55 PM	Mitral Regurgitation and Aortic Regurgitation Case Examples: Errors We Must Avoid <i>C. Kramer</i>
3:15 PM	Refreshment Break and Visit Exhibits
3:40 PM	Cases: Mitral, Aortic Prosthetic Stenosis <i>B. Khandheria</i>
4:00 PM	Cases: Mitral, Aortic Prosthetic Regurgitation <i>A. DeMaria</i>
4:20 PM	Cases: Paravalvular Aortic Regurgitation and Paravalvular Mitral Regurgitation <i>D. Rubenson</i>
4:40 PM	Question and Answer <i>All</i>
5:00 PM	Dinner on Your Own

Schedule of Events

6:15 – 8:15 PM	Live Demonstration Moderator: <i>M. Umland</i>
	Strain Imaging <i>C. Kramer, S. Roemer</i>
	4D Imaging <i>D. Ignatowski, M. Yamat</i>
	What Else Do You Want to See? <i>H. Huisheere, M. Umland</i>
8:15 PM	Adjourn

MONDAY, FEBRUARY 18, 2019

7:30 AM **Registration, Breakfast, and Visit Exhibits**

MYOCARDIUM, PERICARDIUM I

Moderator: *T. Abraham*

8:00 AM	Cases: Pericardial Effusion and Pleural Effusion <i>C. Kramer</i>
8:20 AM	Cases: Pericardial Fat and Epicardial Fat <i>M. Saric</i>
8:40 AM	Cases: Constrictive Pericarditis and Tamponade <i>J. Hung</i>
9:00 AM	Mystery Cases in Pericardial Disease <i>M. Umland</i>
9:20 AM	Hypertrophic Cardiomyopathy: Morphology Using Cases <i>T. Abraham</i>
9:40 AM	Hypertrophic Cardiomyopathy in the Cath Lab <i>W. Zoghbi</i>
10:00 AM	Hypertension, Hypertrophic Cardiomyopathy, and Athlete's Heart: Cases to Differentiate <i>R. Lang</i>
10:20 AM	Question and Answer
10:40 AM	Refreshment Break and Visit Exhibits

MYOCARDIUM, PERICARDIUM II

Moderator: *B. Khandheria*

11:15 AM	Artificial Intelligence for Dummies <i>R. Lang</i>
11:25 AM	Cardiac Abnormalities in Systemic Disease: Amyloid and Sarcoid <i>M. Saric</i>
11:50 AM	Cardiac Abnormalities in Systemic Disease: Hypereosinophilic, Oxalosis, Hemochromatosis <i>D. Ignatowski</i>
12:10 PM	Bacterial Endocarditis: Vegetation on Single and Multiple Valves <i>J. Hung</i>
12:30 PM	Complications of Bacterial Endocarditis <i>S. Little</i>
12:50 PM	Question and Answer
1:00 PM	Lunch and Visit Exhibits

DIASTOLIC FUNCTION, STRAIN IMAGING, POTPOURRI

Moderators: *B. Khandheria, S. Little*

2:00 PM	2019: How Do I Evaluate Diastolic Function <i>W. Zoghbi</i>
2:20 PM	Strain Imaging: Cases to Illustrate Value Added <i>T. Abraham</i>
2:40 PM	Case Studies in Diastology: When All Do Not Fit <i>W. Zoghbi</i>
3:00 PM	Pickelhaube Syndrome <i>D. Ignatowski</i>
3:20 PM	Stress Cardiomyopathy <i>B. Khandheria</i>
3:40 PM	Stress Echocardiography: Single and Multivessel <i>R. Jain</i>
4:00 PM	Refreshment Break and Visit Exhibits
4:15 PM	False Positive Stress Echocardiography <i>S. Little</i>
4:35 PM	Pathologies of the Right Ventricle: Illustrative Cases <i>R. Jain</i>
4:55 PM	Case Studies in Cardio-Oncology <i>T. Abraham</i>
5:15 PM	Myocardial Work Index: What is This Beast? How Can I Obtain This? <i>T. Abraham, S. Roemer</i>
5:35 PM	Question and Answer
5:45 PM	Dinner on Your Own

FOR SONOGRAPHERS

6:30 PM	Shhhh ... It Is a Secret <i>C. Kramer, H. Huisheere, M. Umland, M. Yamat</i>
8:30 PM	Adjourn

"I have been to this meeting at least six times over the past 15 years. It continues to be my favorite echo meeting. ASE does a great job and it shows."

Past State-of-the-Art attendee

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Your State-of-the-Art Echocardiography registration fee includes breakfasts, breaks, lunches, access to course materials, 34.25 CME credits, and MOC and/or MOCA points.

Name:

Credential: ☐ MD ☐ DO ☐ PhD ☐ RN ☐ RCS ☐ RDCS ☐ Other

Institution:

Email Address:

(ALL CORRESPONDENCE REGARDING YOUR REGISTRATION INCLUDING YOUR CONFIRMATION WILL BE SENT TO THIS EMAIL ADDRESS.)

Street Address:

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

Telephone: Fax:

ASE encourages participation by all individuals. If you have a disability or other specific needs, including dietary, advance notification will help ASE better serve you. Please contact ASE by email at Registrar@asecho.org or telephone at 919-861-5574.

Registration Fees: Please circle the registration type you would like to purchase.

	Through January 16, 2019	After January 16, 2019
ASE Physician Member	\$775	\$875
Physician Nonmember*	\$975	\$1,075
ASE Sonographer/Allied Health Member/Fellow Member	\$575	\$675
Sonographer/Allied Health Nonmember/Fellow Nonmember*	\$725	\$825
One-day Rate: (only one day can be selected) Saturday, Sunday, Monday	\$250	
Preconference Optional Session Fees Attendees must register for this workshop in advance in order to attend due to limited seating available.	Shared Computer	Individual Computer
Learning Lab: February 15-16, 2019	\$550	\$650

* This registration fee includes ASE membership through December 31, 2019. Membership is only available to those who have never been a member of ASE.

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: CVC #:

Registration cancellation fees may apply, and ASE reserves the right to determine if a refund is possible. Please see the full cancellation policy online at ASEcho.org/SOTA.

AMERICAN SOCIETY OF ECHOCARDIOGRAPHY INC, P.O. Box 890082, Charlotte, NC 28289-0082

Phone: 919-861-5574 • Fax: 919-882-9900 • Email: Registrar@asecho.org • Website: ASEcho.org/SOTA



ASE Foundation

American Society of Echocardiography
2530 Meridian Parkway
Suite 450
Durham, NC 27713

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