State-of-the-Art ECHOCARDIOGRAPHY

32nd ANNUAL

FINAL PROGRAM

February 16 – 18, 2019
Optional Learning Lab
February 15–16, 2019
Paradise Point Resort & Spa
San Diego, CA

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

Jointly Provided by ASE and the ASE Foundation
Welcome to the 32nd Annual State-of-the-Art Echocardiography conference, a premier program organized by the American Society of Echocardiography.

Past attendee feedback is invaluable, and, we modified the program to reflect their suggestions. Workshops, cases, new technologies, and sonographer sessions have been added. We also recognize that the program took too many days away from work, so it was condensed.

In keeping with past tradition, we continue to have first-rate cardiologists and sonographers presenting a broad range of echo-related topics to enhance your clinical practice. Upon completion of this course, you should have a “state-of-the-art” knowledge of clinical echocardiography including 3D and myocardial strain imaging and their practical applications.

San Diego, California with blue skies, clear water, and first class education awaits you.

Welcome to San Diego and the 32nd Annual State-of-the-Art Echocardiography conference.

Bijoy K. Khandheria, MD, FASE  
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Stephen H. Little, MD, FASE  
Houston Methodist Hospital  
Houston, TX

Vera H. Rigolin, MD, FASE  
Immediate 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  
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Megan Yamat, RDCS, RCS, FASE  
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Aurora Health Care  
Milwaukee, WI

Denise Ignatowski, BS, RDCS, FASE  
Aurora Health Care  
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Renuka Jain, MD  
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Milwaukee, WI

Sarah M. Roemer, BS, RDCS, FASE  
Aurora Health Care  
Milwaukee, WI
Overview of State-of-the-Art Echocardiography

This premier educational program from the American Society of Echocardiography, in its 32nd year, 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 apply the guidelines in a practical manner. Live demonstrations on strain and 4D will give attendees the opportunity to learn in an informal setting.

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.

Target Audience

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.

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

Learning Lab Session

(Additional Fee Required. Please visit the ASE registration desk to check availability.)

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.

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.

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 (ACCME) through the joint providership of the American Society of Echocardiography and the American Society of Echocardiography Education and Research Foundation.

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

The American Society of Echocardiography designates this live activity (the learning lab and the main session) for a maximum of 36.5 AMA PRA Category 1 Credits™. The main session has been designated for a maximum of 21.5 AMA PRA Category 1 Credits™.

Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Successful completion of this CME activity enables the participant to earn up to 36.5 MOC points in the American Board of Internal Medicine’s (ABIM) Maintenance of Certification (MOC) program and/or The American Board of Anesthesiology® (ABA) Maintenance of Certification in Anesthesiology Program® or MOCA®. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is ASE’s responsibility to submit participant completion information to ACCME for the purpose of granting ABA MOCA and/or ABIM MOC points.

ACMCE ACCREDITED WITH COMMENDATION

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®.
Daily breakdown of CME credits:

**Friday, February 15, 2019:**
Learning Lab = 9 hours

**Saturday, February 16, 2019:**
Learning Lab = 6 hours
Main Session = 2.5 hours

**Sunday, February 17, 2019** = 9 hours

**Monday, February 18, 2019** = 10 hours

The ACCME and the European Board of Accreditation in Cardiology (EBAC) recognize each other’s accreditation systems as substantially equivalent. To obtain EBAC credit for participation in this activity, submit evidence of participation directly to EBAC (www.ebac-cme.org).

The European Union of Medical Specialists (UEMS)-European Accreditation Council for Continuing Medical Education (EACCME) has an agreement of mutual recognition of continuing medical education (CME) credit with the American Medical Association (AMA). European physicians interested in converting AMA PRA Category 1 Credit™ into European CME credit (ECMEC) should contact the UEMS (www.uems.eu).

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

All or a portion of this educational activity may meet the CME requirement for IAC Echocardiography accreditation.

This activity is eligible for Section 1 credits in the Royal College of Physicians and Surgeons of Canada’s Maintenance of Certification (MOC) Program. Participants must log into MAINPORT to claim this activity.

Disclosure

ASE is committed to ensuring that its educational mission and all 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. 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 11 of this program.

Commercial Support Disclosure Statement

**Educational Grants:** This activity is supported in part by unrestricted educational grants from Abbott, Biosense Webster, Boston Scientific, Edwards Lifesciences, Lantheus Medical Imaging, Inc., and Medtronic.

**In-Kind Donations:** This activity is supported in part by in-kind donations from Digisonics, Inc., GE Healthcare, Hitachi Healthcare, Philips, and Siemens Healthineers.

**How to Obtain CME**

To claim your CME for State-of-the-Art Echocardiography, please follow the steps below using your Mozilla Firefox, Google Chrome, or Safari browser. Internet Explorer will not work. The deadline to claim credit is March 15, 2019.

**ASE Members:**

1. Go to ASEcho.org and log in to the Member Portal with your username (email) and password.
   a. If you forget your password, simply click “Retrieve” under the login.
2. Click on Education/ASEUniversity. This will take you directly to your ASEUniversity account.

**Nonmembers:**

1. Go to ASEUniversity.org.
2. Log into your existing account or create a new one.

**To Claim Credit:**

3. Click Add Access Code on the left sidebar and enter the code, “SOTA2019”.
4. Verify your registration information. Please be sure to use the same information that you used to register for the event.
5. Once verified, click CE Information tab and Take Exam button to claim your CME credit. CME credits are not earned until the entire evaluation has been completed.
6. Your certificate will be available for immediate download and can also be found under My Account in the My Transcripts section.

Remember to enter your ABIM and/or ABA number and birthdate if you choose to have MOC and/or MOCA points for this meeting submitted to ABIM and/or ABA. There is a space for this information on the first page of the evaluation.
Attendee Information & Regulations

Registration Location and Hours
Attendee registration is located outside of the Paradise Ballroom.

Friday, February 15, 2019 ........................................... 7:00 AM – 6:15 PM
Saturday, February 16, 2019 ......................................... 7:00 AM – 8:00 PM
Sunday, February 17, 2019 and Monday, February 18, 2019 the registration desk will be open during all session hours.

Food Functions
ASE will provide breakfast and coffee breaks for registered attendees in the Sunset Ballroom.

Lunch will be provided for registered attendees of the main conference on Sunday, February 17 – Monday, February 18. Lunch times vary. Please refer to the program schedule for times.

Refer to the program schedule for the times of the daily coffee breaks. The Paradise Point Resort & Spa offers their guests a variety of dining options. Please see Location Information (page 6) for more details.

Mobile Device Use
We encourage you to use your mobile device to download the new ASE Courses app. After you have downloaded the app, you will have access to the entire meeting program at your fingertips. You can also use the app to ask questions during the sessions you attend. Search “ASE Courses” in the Google Play and Apple Stores to download. Please remember to turn your mobile device to silent or vibrate mode.

Internet Access
Attendees of the course receive complimentary internet throughout Paradise Point Resort & Spa.

Business Center
The Paradise Point Resort & Spa has a self-service business center which includes a Flight Center, with complimentary boarding pass printing, conveniently located in the lobby.

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 32nd 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 and of poster presentations and supporting poster 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. Photographs taken for the purpose of sharing on social media is allowed, but should avoid showing presentation slides. Please use #EchoSOTA when posting on social media.

ASE reserves the rights to all recordings or reproductions at ASE meetings. Please be aware that during the 32nd 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.
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. 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. Other amenities include:

- Fitness center and movement studio for fitness classes
- Daily surf lessons at the Paradise Surf Academy
- 18-hole putting golf course
- NBA basketball court
- 5 tennis courts
- Beach cruisers, quadricycles, Segways for rental
- Access to 14 miles of waterfront bike and walking paths
- A short distance to top attractions like Old Town, San Diego Zoo, Balboa Park, and Gaslamp Quarter.

Dining Options

Barefoot Bar & Grill: This legendary San Diego beach front restaurant offers a casual coastal California dining atmosphere inspired by the local San Diego culture to create bold flavors and new-American dishes.

Caveman Pizza Company: For a meal of (pre)historic proportions, make your way to the Caveman Pizza Company, located in a noteworthy space designed to double as a bunker in the 1960s.

Food2You Delivery: Enjoy breakfast, lunch, dinner, or a late-night snack in the comfort of your guest room with Paradise Point’s Food2You delivery.

Tidal: Craft and catch converge at Tidal, perched where land meets sea on the shores of Mission Bay.

Tropics Cantina: Located at the Main Pool of our San Diego resort, Tropics Cantina seasonally serves authentic “fresh Mex” straight from Baja California.
### SATURDAY, FEBRUARY 16, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM</td>
<td><strong>Registration and Breakfast</strong></td>
<td>Paradise Foyer</td>
</tr>
<tr>
<td>7:30 AM</td>
<td><strong>Diastolic Function: Basic and Advanced</strong></td>
<td>Paradise Ballroom</td>
</tr>
<tr>
<td>8:15 AM</td>
<td>3D of the Tricuspid Valve</td>
<td>Paradise Ballroom</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Hypertrophic Cardiomyopathy and Left Ventricular Noncompaction</td>
<td>Paradise Ballroom</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>Refreshment Break for Learning Lab Attendees</td>
<td>Royal Room</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>Dilated Cardiomyopathy: Essential Measurements, the Right Way</td>
<td>Paradise Ballroom</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Unusual Cardiomyopathies</td>
<td>Paradise Ballroom</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>Left Ventricular Assist Device: What You Need to Know</td>
<td>Royal Room</td>
</tr>
<tr>
<td>12:30 PM</td>
<td>Lunch for Learning Lab Attendees</td>
<td>Royal Room</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Hypertension: Essential Measurements</td>
<td>Paradise Ballroom</td>
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<tr>
<td>2:00 PM</td>
<td>Cornucopia of Cases</td>
<td>Paradise Ballroom</td>
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<tr>
<td>3:00 PM</td>
<td>Adjourn</td>
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</tbody>
</table>

### LEARNING LAB (additional fee required)

*Paradise Ballroom*

**Chairs:** B. Khandheria, R. Lang

- **Diastolic Function: Basic and Advanced**
  - B. Khandheria, M. Umland

### MAIN CONFERENCE

*Paradise Ballroom*

- **Welcome**
  - B. Khandheria, W. Zoghbi

- **President’s Address: State of ASE**
  - J. Lindner

### CONGRESS ECHO

*Paradise Ballroom*

**Moderator:** R. Jain

- **5:00 PM**
  - Contrast Echocardiography: Historical Perspective
    - A. DeMaria

- **5:15 PM**
  - Contrast Echocardiography: The Future is Bright
    - J. Lindner

- **5:30 PM**
  - Dinner on Your Own

### ECHO ENTHUSIAST

*Paradise Ballroom*

**Moderator:** R. Jain

- **6:30 PM**
  - Case Studies in Contrast Enhanced Imaging
    - D. Ignatowski, J. Lindner, M. Yamat

- **7:00 PM**
  - Hypertension Cases: Guidelines Say What Echo Should Get
    - R. Jain

### SUNDAY, FEBRUARY 17, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00 AM</td>
<td>Did You Know These Can Cause Secondary Hypertension?</td>
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</tr>
<tr>
<td>7:20 PM</td>
<td>Did You Know These Can Cause Secondary Hypertension?</td>
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<tr>
<td>7:40 PM</td>
<td>Regional Wall Motion Analysis: Read With Me</td>
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<tr>
<td>8:00 PM</td>
<td>Adjourn</td>
<td></td>
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</tbody>
</table>

**SUNDAY, FEBRUARY 17, 2019**

- **Registration**
  - Paradise Foyer

**BREAKFAST AND VISIT EXHIBITS**

*Sunset Ballroom and Deck*

### STRUCTURAL HEART DISEASE I

*Paradise Ballroom*

**Moderator:** V. Rigolin

- **8:00 AM**
  - Aortic Stenosis Cases: Low-Gradient, Normal Function and Low-Gradient, Reduced Function
    - B. Khandheria

- **8:20 AM**
  - Commonly Encountered Errors in Gradient and Valve Area
    - D. Ignatowski

- **8:40 AM**
  - TAVR: What to Measure Pre- and Post-TAVR: What Is a Sweep?
    - S. Roemer

- **9:00 AM**
  - Examples Showing Complications from TAVR
    - M. Saric

- **9:20 AM**
  - MitraClip: Preprocedural Echo Cases
    - V. Rigolin

- **9:40 AM**
  - MitraClip: Intraprocedural Cases
    - S. Little

- **10:00 AM**
  - Morphologic Variants of Aortic Valve Examples
    - M. Umland

- **10:20 AM**
  - Subvalvular and Supravalvular Aortic Stenosis
    - J. Hung

- **10:40 AM**
  - Question and Answer Panel

- **10:45 AM**
  - Refreshment Break and Visit Exhibits
    - Sunset Ballroom and Deck

### STRUCTURAL HEART DISEASE II

*Paradise Ballroom*

**Moderator:** R. Jain

- **11:15 AM**
  - Morpho Anatomy of Tricuspid Valve
    - R. Lang

- **11:35 AM**
  - Case Studies Showing Different Causes of Tricuspid Regurgitation
    - J. Hung

- **11:55 AM**
  - 3D Printing in Structural Heart Disease
    - S. Little

- **12:15 AM**
  - Step-by-Step Examples to Measure Pulmonary Pressure
    - S. Roemer

- **12:35 PM**
  - Lunch and Visit Exhibits
    - Sunset Ballroom and Deck
# Schedule of Events

## STRUCTURAL HEART DISEASE III
Paradise Ballroom  
Moderators: S. Little, D. Rubenson

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:35 PM</td>
<td>Left Atrial Appendage Closure: Preprocedure</td>
</tr>
<tr>
<td></td>
<td>M. Saric</td>
</tr>
<tr>
<td>1:55 PM</td>
<td>Left Atrial Appendage Closure: Intraprocedure</td>
</tr>
<tr>
<td></td>
<td>R. Jain</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>Transcatheter Mitral Replacement Cases: Essential Measurements</td>
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<tr>
<td></td>
<td>V. Rigolin</td>
</tr>
<tr>
<td>2:35 PM</td>
<td>Mitral Regurgitation and Aortic Regurgitation: Key Measurements</td>
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<tr>
<td></td>
<td>W. Zoghbi</td>
</tr>
<tr>
<td>2:55 PM</td>
<td>Mitral Regurgitation and Aortic Regurgitation Case Examples: Errors We Must Avoid</td>
</tr>
<tr>
<td></td>
<td>C. Kramer</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>Refreshment Break and Visit Exhibits</td>
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<tr>
<td></td>
<td>Sunset Ballroom and Deck</td>
</tr>
<tr>
<td>3:40 PM</td>
<td>Cases: Mitral, Aortic Prosthetic Stenosis</td>
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<tr>
<td></td>
<td>B. Khandheria</td>
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<tr>
<td>4:00 PM</td>
<td>Cases: Mitral, Aortic Prosthetic Regurgitation</td>
</tr>
<tr>
<td></td>
<td>A. DeMaria</td>
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<tr>
<td>4:20 PM</td>
<td>Cases: Paravalvular Aortic Regurgitation and Paravalvular Mitral Regurgitation</td>
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<tr>
<td></td>
<td>D. Rubenson</td>
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<tr>
<td>4:40 PM</td>
<td>Question and Answer</td>
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<td></td>
<td>All</td>
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<tr>
<td>5:00 PM</td>
<td>Dinner on Your Own</td>
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## MONDAY, FEBRUARY 18, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
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<tbody>
<tr>
<td>7:30 AM</td>
<td>Registration</td>
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<tr>
<td></td>
<td>Paradise Foyer</td>
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<tr>
<td></td>
<td>Breakfast and Visit Exhibits</td>
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<td></td>
<td>Sunset Ballroom and Deck</td>
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</tbody>
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## MYOCARDIUM, PERICARDIUM I
Paradise Ballroom  
Moderator: T. Abraham

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Cases: Pericardial Effusion and Pleural Effusion</td>
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<tr>
<td></td>
<td>C. Kramer</td>
</tr>
<tr>
<td>8:20 AM</td>
<td>Cases: Pericardial Fat and Epicardial Fat</td>
</tr>
<tr>
<td></td>
<td>M. Saric</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>Cases: Constrictive Pericarditis and Tamponade</td>
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<tr>
<td></td>
<td>J. Hung</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Mystery Cases in Pericardial Disease</td>
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<td></td>
<td>M. Umland</td>
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<tr>
<td>9:20 AM</td>
<td>Hypertrophic Cardiomyopathy: Morphology Using Cases</td>
</tr>
<tr>
<td></td>
<td>T. Abraham</td>
</tr>
<tr>
<td>9:40 AM</td>
<td>Hypertrophic Cardiomyopathy in the Cath Lab</td>
</tr>
<tr>
<td></td>
<td>W. Zoghbi</td>
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<tr>
<td>10:00 AM</td>
<td>Hypertension, Hypertrophic Cardiomyopathy, and Athlete’s Heart: Cases to Differentiate</td>
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<tr>
<td></td>
<td>R. Lang</td>
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<tr>
<td>10:20 AM</td>
<td>Question and Answer</td>
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<td></td>
<td>All</td>
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<tr>
<td>10:40 AM</td>
<td>Refreshment Break and Visit Exhibits</td>
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<td>Sunset Ballroom and Deck</td>
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## MYOCARDIUM, PERICARDIUM II
Paradise Ballroom  
Moderator: B. Khandheria

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>11:15 AM</td>
<td>Artificial Intelligence for Dummies</td>
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<tr>
<td></td>
<td>R. Lang</td>
</tr>
<tr>
<td>11:25 AM</td>
<td>Cardiac Abnormalities in Systemic Disease: Amyloid and Sarcoïd</td>
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<tr>
<td></td>
<td>M. Saric</td>
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<tr>
<td>11:50 AM</td>
<td>Cardiac Abnormalities in Systemic Disease: Hypereosinophilic, Oxalosis, Hemochromatosis</td>
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<tr>
<td></td>
<td>D. Ignatowski</td>
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<tr>
<td>12:10 PM</td>
<td>Bacterial Endocarditis: Vegetation on Single and Multiple Valves</td>
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<td></td>
<td>J. Hung</td>
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<tr>
<td>12:30 PM</td>
<td>Complications of Bacterial Endocarditis</td>
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<tr>
<td></td>
<td>S. Little</td>
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<tr>
<td>12:50 PM</td>
<td>Question and Answer</td>
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<td>All</td>
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<tr>
<td>1:00 PM</td>
<td>Lunch and Visit Exhibits</td>
</tr>
<tr>
<td></td>
<td>Sunset Ballroom and Deck</td>
</tr>
</tbody>
</table>
### DIASTOLIC FUNCTION, STRAIN IMAGING, POTPOURRI

**Paradise Ballroom**

**Moderators:** B. Khandheria, S. Little

- **2:00 PM**
  - 2019: How Do I Evaluate Diastolic Function  
    - W. Zoghbi

- **2:20 PM**
  - Strain Imaging: Cases to Illustrate Value Added  
    - T. Abraham

- **2:40 PM**
  - Case Studies in Diastology: When All Do Not Fit  
    - W. Zoghbi

- **3:00 PM**
  - Pickelhaube Syndrome  
    - D. Ignatowski

- **3:20 PM**
  - Stress Cardiomyopathy  
    - B. Khandheria

- **3:40 PM**
  - Stress Echocardiography: Single and Multivessel  
    - R. Jain

- **4:00 PM**
  - Refreshment Break and Visit Exhibits  
    - Sunset Ballroom and Deck

- **4:15 PM**
  - False Positive Stress Echocardiography  
    - S. Little

- **4:35 PM**
  - Pathologies of the Right Ventricle: Illustrative Cases  
    - R. Jain

- **4:55 PM**
  - Case Studies in Cardio-Oncology  
    - T. Abraham

- **5:15 PM**
  - Myocardial Work Index: What is This Beast? How Can I Obtain This?  
    - T. Abraham, S. Roemer

- **5:35 PM**
  - Question and Answer

- **5:45 PM**
  - Dinner on Your Own

### FOR SONOGRAPHERS

**Paradise Ballroom**

- **6:30 PM**
  - Shhhh … It Is a Secret  
    - C. Kramer, H. Huisheere, M. Umland, M. Yamat

- **8:30 PM**
  - Adjourn

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### Exhibit Location and Hours

Exhibits are located in the Sunset Ballroom during the dates and hours listed below:

- **Sunday, February 17**: 7:30 AM – 3:40 PM
- **Monday, February 18**: 7:30 AM – 4:15 PM

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### Exhibitor Descriptions

#### Bracco Diagnostics Inc.

259 Prospects Plains Road, Bldg H  
Monroe Township, NJ 08831  
United States

Phone: 877-272-2269  
usa.braccoimaging.com

Bracco Diagnostics Inc. (BDI), the U.S.-based subsidiary of Bracco Imaging SpA, and part of the Bracco group, is a leader in innovative contrast imaging agents in the U.S. BDI, established in 1994, with headquarters and research offices in Monroe Township, NJ, offers a product and solution portfolio for all key diagnostic imaging modalities: X-ray Imaging (including Computed Tomography-CT, Interventional Radiology, and Cardiac Catheterization), Magnetic Resonance Imaging (MRI), Contrast Enhanced Ultrasound (CEUS), and Nuclear Medicine through radioactive tracers. The diagnostic imaging offer is completed by several medical devices and advanced administration systems for contrast imaging products in the fields of radiology.

#### Epsilon Imaging

1100 Victors Way, Suite 10  
Ann Arbor, MI 48108  
United States

Phone: 734-369-5100  
epsilon-imaging.com

As a provider of workflow enhancing solutions for cardiology, Epsilon Imaging is transforming cardiac diagnostic workflow with a vender neutral suite of visualization and analysis software applications designed for echocardiography. EchoInsight® provides clinical applications for improved quantification of the heart with clinical strain imaging. Applications assist clinicians to enhance, standardize, and streamline interpretation and monitoring of echo studies. Learn more by visiting epsilon-imaging.com.
Exhibitor Descriptions (cont.)

GE Healthcare
Cardiovascular Ultrasound
9900 Innovation Drive
Wauwatosa, WI 53226
United States
Phone: 414-544-2638
gehealthcare.com
GE Healthcare provides transformational medical technologies that will shape a new age of patient care. GE Healthcare’s expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, disease research, drug discovery and biopharmaceuticals is dedicated to detecting disease earlier and tailoring treatment for individual patients.

Hitachi Healthcare
1959 Summit Commerce Park
Twinsburg, OH 44087
United States
Phone: 800-800-3106
hitachihealthcare.com
Hitachi Healthcare is proud of the reputation we’ve built as an industry leader in diagnostic ultrasound. Known for our unparalleled Doppler performance, superior system reliability and intuitive use of cutting edge technology, Hitachi Healthcare remains the ideal choice for exceptional diagnostic ultrasound imaging in the field of cardiovascular medicine.

Lantheus Medical Imaging, Inc.
331 Treble Cove Road
North Billerica, MA 01862
United States
Phone: 800-362-2668
lantheus.com
Lantheus Medical Imaging, a global leader in the development, manufacture and commercialization of innovative diagnostic imaging agents and products serving Echocardiography and Nuclear Medicine specialties, is headquartered in North Billerica, Massachusetts with offices in Puerto Rico and Canada.

Philips Healthcare
22100 Bothell Everett Highway
Bothell, WA 98031
United States
Phone: 888-744-5477
usa.philips.com/healthcare
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Phone: 713-352-9284
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Baltimore, MD 21201
United States
Phone: 619-838-8308
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