

State-of-the-Art ECHOCARDIOGRAPHY™

35th ANNUAL



FINAL PROGRAM

February 18–20, 2023

Optional Preconference Learning Lab

February 17–18, 2023

**The Westin Kierland Resort & Spa
Scottsdale, AZ**

Course Director

William A. Zoghbi, MD, FASE

Past President, ASE
Houston Methodist Hospital
Houston, TX

Course Co-Director

Sunil V. Mankad, MD, FASE

Mayo Clinic
Rochester, MN

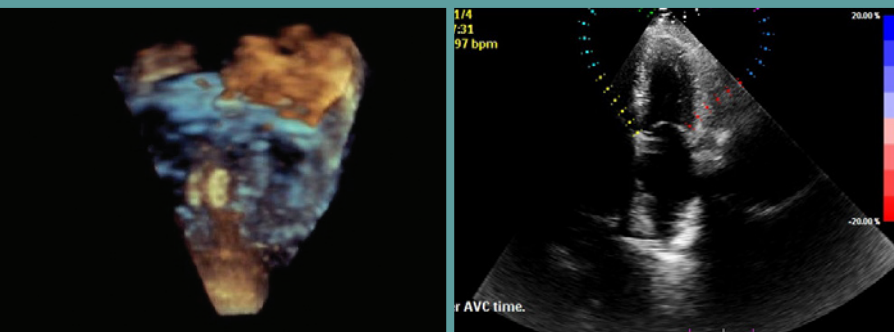
Learning Lab Co-Directors

Roberto M. Lang, MD, FASE

Past President, ASE
University of Chicago Medical Center
Chicago, IL

Matt M. Umland, ACS, RDCS, FASE

Aurora Health Care
Milwaukee, WI



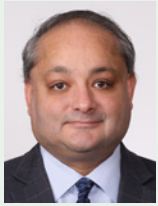
Welcome to the 35th Annual State-of-the-Art Echocardiography™ conference, a premier program organized by ASE. Past attendee feedback is invaluable, and we modified the program to reflect their suggestions. Workshops, cases, new technologies, and sonographer sessions have been added. We also recognize 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.

Scottsdale, Arizona, with blue skies and first class education, awaits you.

Welcome to Scottsdale and the 35th Annual State-of-the-Art Echocardiography conference.



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



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Mayo Clinic
Rochester, MN



SAVE THE DATE

36th Annual State-of-the-Art Echocardiography
February 9 – 12, 2024, Scottsdale, AZ

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Matt M. Umland, ACS, RDCS, FASE
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Milwaukee, WI

Faculty

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Rochester, MN

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Nadeen Faza, MD, FASE
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Mayo Clinic
Phoenix, AZ

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ASE President
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Houston, TX

G. Burkhard Mackensen, MD, PhD, FASE
University of Washington
Seattle, WA

Maan Malahfji, MD
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Houston, TX

Monica Mukherjee, MD, MPH, FASE
Johns Hopkins University
Baltimore, MD

Jae Oh, MD, FASE
Mayo Clinic
Rochester, MN

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

Jennifer A. Warmsbecker, RDCS, BS, FASE
Mayo Clinic
Rochester, MN

Megan Yamat, RDCS, RCS, ACS, FASE
University of Chicago Medical Center
Chicago, IL

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, presentations will 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.

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 preconference, computer-based Learning Lab, and during the question and answer session.

NEW in 2023!

- Expanded Learning Lab: New topics include advanced hemodynamics, myocardial strain, and structural heart disease. Participants will perform 3D cropping, measurements such as left ventricular and right ventricular strain, left atrial strain, critical measurements for TAVR, TMVR, TEER, and left atrial appendage occluder.
- Case-based Learning: The course will include a special focus on hemodynamics, structural heart disease, interventional echocardiography, and advanced diastolic function.
- Glimpse of the Future: Learn about the impact of Artificial Intelligence, Machine Learning, and Virtual Reality on the field of echocardiography.

Who Should Attend

ASE's State-of-the-Art Echocardiography program is designed for adult and pediatric cardiologists, cardiovascular surgeons, anesthesiologists, radiologists, physician assistants, 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 17, and a half day on Saturday, February 18, 2023. Separate registration is required, and this session is included in the total hours of educational content offered at the course.

Limited to 75 registrants, this intimate workshop allows easy access to faculty members. Computer workstations are provided to teach each participant how to quantitate fundamental aspects of clinical echocardiography. Expert faculty will demonstrate advanced hemodynamics, 3D, and myocardial strain imaging. Each participant will have plenty of case studies to practice demonstrated techniques. 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

ASE is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide accredited continuing education for physicians.

ASE designates this live course for a maximum of **31.75 AMA PRA Category 1 Credits™**. To claim all 31.75 CME credits, you must register for both the pre-conference Learning Lab and main conference. The main conference will offer a total of 16.75 CME credits.

In addition to offering CME credits, this activity has been developed and registered with ACCME to provide MOC and MOCA 2.0 credits in alignment with *AMA PRA Category 1 Credit™*.

Successful completion of this CME activity enables the participant to earn up to 31.75 MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program, the American Board of Pediatrics (ABP) MOC program, and/or the American Board of Anesthesiology's (ABA) Maintenance of Certification in Anesthesiology Program® or MOCA 2.0®. It is ASE's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM and ABP MOC points and/or ABA MOCA 2.0®.

Participants should claim only the credit commensurate with the extent of their participation in the activity. Physicians will earn MOC and/or MOCA 2.0 points equivalent to the amount of CME credits claimed for the activity.

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

This activity has been reviewed by the AAPA Review Panel and is compliant with AAPA CME Criteria. This activity is designated for 31.75 AAPA Category 1 CME credits. PAs should only claim credit commensurate with the extent of their participation. Approval is valid from 2/17/2023 to 2/20/2023. AAPA reference number: CME-207859.



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®.

Program Information

Daily breakdown of CME credits:

Learning Lab

Friday, February 17, 2023 = 8.75 hours

Saturday, February 18, 2023 = 6.25 hours

Main Conference

Saturday, February 18, 2023 = 2.0 hours

Sunday, February 19, 2023 = 7.5 hours

Monday, February 20, 2023 = 7.25 hours

The **American Osteopathic Association (AOA)** automatically recognizes *AMA PRA Category 1 Credit™* as AOA Category 2 credit. 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).

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.

The **National Commission on Certification of Physician Assistants (NCCPA)** accepts *AMA PRA Category 1 Credit™* from organizations accredited by ACCME.

Disclosure

ASE is committed to ensuring that its educational mission, and all accredited continuing educational programs provide a protected space to learn, teach, and engage in scientific discourse free from influence from organizations that may have an incentive to insert commercial bias into education.

While a monetary or professional affiliation with an ineligible company does not necessarily influence a speaker's presentation, the Standards for Integrity and Independence in Accredited Continuing Education and policies of the ACCME require that all financial relationships with ineligible companies be identified and mitigated prior to engaging in an accredited CE activity. In accordance with these policies, ASE actively identified relevant financial relationships between faculty in control of this accredited CE activity and ineligible companies, and implemented mitigation strategies to eliminate any potential influence from persons or organizations that may have an incentive to insert commercial bias in this activity. Disclosure information is referenced and can be found on page 14 of this program.

Commercial Support Disclosure Statement

Educational Grants: This activity is supported in part by unrestricted educational grants from Abbott, Boston Scientific, GE Healthcare, Lantheus Medical Imaging, Inc., and Medtronic.

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

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 21, 2023.**

How to claim your CME credits:

1. Go to ASELearningHub.org
2. Log in to your existing account using the Login Here button on the right.
3. Click on the blue "Go to your Learning Center" box.
4. Locate the State-of-the-Art Echocardiography 2023 Evaluation activity and click the Launch button.
5. Once you have completed the evaluation, your certificate will be emailed to you for immediate download. Certificates will be uploaded on a weekly basis and can also be found under the "Completed" tab in your learning center.

Attendee Information & Regulations

Registration Location and Hours

Attendee registration is located outside of the Herberger Ballroom.

Friday, February 17, 2023	7:00 AM – 6:00 PM
Saturday, February 18, 2023.....	7:00 AM – 6:00 PM
Sunday, February 19, 2023.....	7:00 AM – 5:45 PM
Monday, February 20, 2023.....	7:00 AM – 5:00 PM

Food Functions

ASE will provide breakfast and coffee breaks for registered attendees in Herberger Ballroom 2.

Lunch will be provided for registered attendees of the main conference on Sunday, February 19 – Monday, February 20. 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 Westin Kierland Resort & Spa offers their guests a variety of dining options. Please see Location Information on page 8 for more details.

Mobile Device Use

We encourage you to use your mobile device to download Whova, the new app ASE is using for live courses. Whova will give you access to the entire meeting program at your fingertips. You can also use the app to ask questions during the sessions you attend. Search “Whova” in the Google Play and Apple Stores to download. For more details on the Whova app and using it at State-of-the-Art Echocardiography, see page 6. **Please remember to turn your mobile device to silent or vibrate mode.**

Internet Access

Any attendee staying at the Westin Kierland Resort & Spa receives propertywide complimentary internet access as part of the resort fee. Log in using your guest room number and last name to access. If you are a local attendee or not staying at the Westin Kierland Resort & Spa, please visit the Registration desk to receive login details for internet access.

FedEx Office

The FedEx Office Print & Ship Center, located inside the Westin Kierland Resort & Spa, offers many services such as packing and shipping, office supplies, copying, and printing services. The FedEx office is conveniently open seven days a week.



Attendee Information & Regulations

Safety

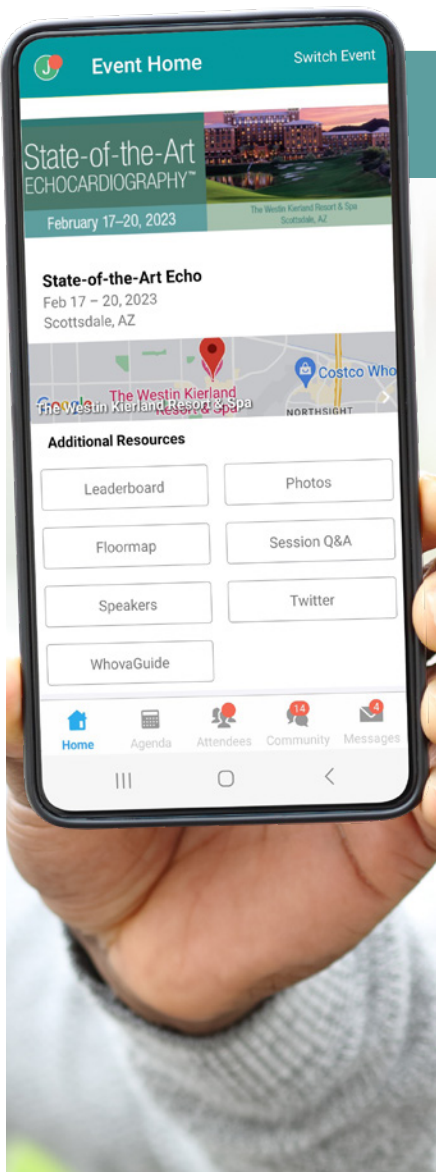
Audience seating is on a first come, first served basis. According to fire code, a session must be closed if the room fills to capacity. Inappropriate behavior or undesirable conduct, including, but not limited to, verbal or physical abuse, whether threatened or performed, will not be permitted or tolerated. 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 35th 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 35th 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.



Download Whova, ASE's New Live Course App

ASE is using the online platform Whova as its new live courses app. Whova will give you access to the entire meeting program at your fingertips. You can also use the app to ask questions during the sessions you attend. Search "Whova" in the Google Play and Apple Stores to download.

Whova allows for more interaction among participants at the meeting including:

- Finding others who are attending State-of-the-Art Echocardiography and reaching out to them at any time.
- Planning social activities such as a morning run, coffee hours, or meet-ups with your fellow attendees.

Important course information like:

- The event agenda and planning your personal schedule.
- Access to documents and slides shared by organizers or speakers.
- Updates like possible last minute session changes from the organizers.

If you have already used the Whova app, just double-check what is installed on your phone, tablet, or computer, and log in using your existing account email and password.

First Time Whova User?

MOBILE APP

After downloading Whova, you will be prompted to create an account. We suggest that you use the email address you used when registering for State-of-the-Art Echocardiography and create a strong password. By using the email address you used when registering for State-of-the-Art Echocardiography, the platform will automatically associate you with the event and take you to your event page automatically.

WEB PORTAL

Once you have downloaded and signed into the Whova app on your mobile device, you will receive an email from Whova with the web portal URL. Open your email on your laptop/tablet and click the web portal link to access the app through your browser..

If you are not automatically connected to the event and you are prompted for an event code, please reference the email you were sent on Monday, February 13, from Christina LaFuria at "event-noreply@whova.io", on the back of your name badge, or visit the registration desk outside the Herberger Ballroom.

TRANSTHYRETIN AMYLOID CARDIOMYOPATHY (ATTR-CM):

Evaluating Clinical Findings to Support Earlier Diagnosis and Management

Sunday, February 19, 2023
12:45 PM - 1:45 PM MT



Roxana Ghashghaei, MD

Division of Cardiology

Assistant Health Sciences Professor of Medicine

University of California

Irvine, California

The Westin Kierland Resort & Spa
Herberger Ballroom 3

This session is not part of the official ASE 35th Annual State-of-the-Art Echocardiography, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE. This event does not qualify for continuing medical education (CME) credit.

Location Information

Scottsdale, Arizona

Make time to stretch your legs on a wildflower hike and possibly catch a spring training baseball game. The nearby McDowell Sonoran Preserve is an other-worldly landscape of rugged mountains, towering saguaros, and whimsically shaped cacti. By day, this lush landscape is ideal for sunrise hikes, hot air ballooning, and other desert adventures. After dark, the desert continues to delight with stargazing excursions and technicolor sunsets.

Old Town Scottsdale is full of public art installations, galleries, boutiques, spas, and restaurants. It also boasts award-winning craft breweries and wine-tasting rooms, as well as two of the city's most popular museums, the Western Spirit: Scottsdale's Museum of the West and the Scottsdale Museum of Contemporary Art.

Other sights you won't want to miss are Taliesin West, architect Frank Lloyd Wright's former home and studio, and a stroll among thousands of colorful species at Butterfly Wonderland. You will not go hungry in Scottsdale as it is home to more than 800 restaurants citywide.



The Westin Kierland Resort & Spa

Just steps from upscale shopping, dining, and entertainment in Kierland Commons, the resort features three golf courses at Kierland Golf Club. Enjoy a relaxing massage at Agave, The Arizona Spa that offers treatments inspired by traditional practices handed down through many of Arizona's native cultures as well as therapies infused with healing traditions from the best practices all over the world. Reenergize in the WestinWORKOUT® Fitness Studio, open 24 hours with room card access which includes a hot tub, steam room, and sauna. One of the resort's biggest attractions is the Adventure Water Park, which offers the iconic Kierland FlowRider flow-board simulator for surfing in the desert, a lazy river, a 110-foot-long waterslide, and more! Rent a family-friendly poolside cabana to relax in shaded luxury or enjoy your very own Tommy Bahama Relaxation Reef private island. The Aguamiel pool is the heated adult pool and is a quiet retreat that features lap lanes for fitness swimming, a hot tub, and private cabanas.

Westin Kierland Resort & Spa Dining and Beverage Options

Brittlebush Bar & Grill: After a round of golf, visit Brittlebush Bar & Grill, the resort's gastropub restaurant. Sip on local craft beer, microbrews, and signature label, "Piper's Pale Ale." Relax in a lodge-like setting with copper accents and wood beams. Serving lunch; casual dress.

Coffee Flats: Stop by Coffee Flats before you explore sunny Scottsdale. Offering Starbucks® coffees, pastries, and hot breakfast sandwiches. At lunch, grab a salad, wrap, or snack from a selection of to-go items. Serving breakfast and lunch; casual dress.

deseo: Pair Latin American cuisine with a South American wine list at deseo. This lively, upbeat restaurant and lounge offers tasty ceviche, anticuchos, tapas, and an exceptional fine dining setting. Serving dinner; casual dress.

J. Swilling's Poolside Bar & Grill: Eat well with a casual menu after drifting in the lazy river or boarding the Kierland FlowRider. Reenergize with salads, sandwiches, and snacks. Relax in the sunshine with a frosty cocktail or beverage. Serving lunch and dinner; casual dress.

Nellie Cashman's Monday Club Café: Savor Arizona-inspired dining with a modern menu that reinvents traditional recipes that date back to the late 1800's. Sip on a cocktail or spirit crafted from locally sourced ingredients. Serving breakfast, lunch, and dinner; casual dress.

The Rim: Take in serene views of Dreamweavers Canyon at The Rim. This lobby lounge includes premium tequilas and an award-winning selection of wines and vintage cigars. Unwind with live, local music. Serving lunch; casual dress.

The Scotch Library: Let the Scotch Library Ambassadors guide you through more than 300 whiskey labels. Aficionados and first-timers find something to love with invigorating single malts and blended selections. Waltz & Weiser Whiskey Bar and Cantina: Immerse yourself in a reimagined

Old West at Waltz & Weiser Saloon: Offering balanced menu items and a selection of fine tequilas and whiskeys, it's the perfect place to watch the game or relax in the cool, evening air. Serving lunch and dinner; casual dress.

Westin Kierland Resort & Spa Address

6902 E. Greenway Parkway, Scottsdale, AZ 85254
Phone: (480)-624-1000.

Schedule of Events

FRIDAY, FEBRUARY 17, 2023

LEARNING LAB: DAY 1 (additional fee required)

Herberger Ballroom 3

7:00 AM	Registration and Breakfast Herberger Foyer and Herberger Ballroom 2
7:45 AM	Welcome, Objectives, and Introductions <i>R. Lang, W. Zoghbi</i>
8:00 AM	Introduction to Computers and Software <i>M. Umland</i>
8:15 AM	Basic and Advanced Hemodynamics <i>C. Bergeron, M. Christensen, W. Zoghbi</i>
9:15 AM	Basic 3D <i>E. Kruse, R. Lang, M. Yamat</i>
10:15 AM	Basic Strain Imaging <i>D. Ignatowski, B. Khandheria, A. Kaminski</i>
11:15 AM	Refreshment Break Herberger Foyer
11:30 AM	Basic Diastolic Function, Constriction, Restriction <i>A. Kaminski, B. Khandheria, M. Umland</i>
12:30 PM	Unknown Cases in Diastology: Questions and Answers <i>All Faculty</i>
1:00 PM	Lunch Break Herberger Ballroom 2
2:00 PM	Assessment of Global and Regional Left Ventricular Function: Use of Contrast and Strain <i>C. Bergeron, M. Christensen, W. Zoghbi</i>
3:00 PM	Assessment of Right Ventricular Function: Conventional and Strain Measurements <i>J. Betz, S. Mankad, J. Warmsbecker</i>
3:30 PM	Refreshment Break Herberger Foyer
3:45 PM	3D Crop and Measure <i>E. Kruse, R. Lang, M. Yamat</i>
4:45 PM	Case Studies: Unknown Cases <i>All Faculty</i>
6:00 PM	Adjourn

SATURDAY, FEBRUARY 18, 2023

LEARNING LAB: DAY 2 (additional fee required)

Herberger Ballroom 3

7:00 AM	Registration, Breakfast, and Visit Exhibits Herberger Foyer and Herberger Ballroom 2
7:30 AM	Aortic Stenosis, Measurements for Native and Prosthetic Valves <i>J. Betz, S. Mankad, J. Warmsbecker</i>
8:30 AM	Aortic Regurgitation: Practical Measurements <i>E. Kruse, R. Lang, M. Yamat</i>
9:00 AM	Mitral Regurgitation, TAVR, Quantification <i>C. Bergeron, M. Christensen, W. Zoghbi</i>
10:00 AM	Tricuspid Regurgitation, Edge to Edge Repair, Quantification <i>D. Ignatowski, B. Khandheria, M. Umland</i>
10:30 AM	Refreshment Break and Visit Exhibits Herberger Ballroom 2

10:45 AM	Mitral Stenosis Measurements <i>E. Kruse, R. Lang, M. Yamat</i>
11:15 AM	Measurements for TAVR, TMVR, Mitraclip, and Left Atrial Appendage Occluder <i>D. Ignatowski, A. Kaminski, B. Khandheria</i>
12:00 PM	Lunch and Visit Exhibits Herberger Ballroom 2
1:00 PM	Hypertrophic Cardiomyopathy, Left Ventricular Noncompaction, Amyloid, and Infiltrative Diseases <i>J. Betz, S. Mankad, J. Warmsbecker</i>
2:00 PM	Case Studies in Valvular Disease and Myocardial Disease <i>All Faculty</i>
3:00 PM	Refreshment Break and Visit Exhibits Herberger Ballroom 2

MAIN CONFERENCE

NEW TECHNOLOGY & CORONARY ARTERY DISEASE

Chairs: *S. Mankad, W. Zoghbi*

Herberger Ballroom 3

4:00 PM	Welcome and Course Introduction <i>S. Mankad, W. Zoghbi</i>
4:15 PM	Presidential Address: State of ASE <i>S. Little</i>
4:30 PM	Artificial Intelligence and Echocardiography: Impact on Sonographers and Echocardiographers <i>S. Lester</i>
4:45 PM	Quantitation of Ventricular Function: How to Complement 2D with 3D in Your Laboratory <i>R. Lang</i>
5:00 PM	Contrast Echocardiography: Impact on Diagnosis and Outcome <i>J. Oh</i>
5:15 PM	Complications of Myocardial Infarction, Right Ventricle, Myocardial Rupture, and Pap Muscle Rupture <i>R. Jain</i>
5:30 PM	Stress Echocardiography Is Still Alive: Caveats for Improved Accuracy <i>W. Zoghbi</i>
5:45 PM	Question and Answer <i>All Presenters</i>
6:00 PM	Adjourn

Schedule of Events

SUNDAY, FEBRUARY 19, 2023

STRUCTURAL HEART DISEASE: PART I

Chairs: *R. Jain, M. Yamat*
Herberger Ballroom 3

7:00 AM	Registration, Breakfast, and Visit Exhibits Herberger Foyer and Herberger Ballroom 2
8:00 AM	Cases to Illustrate When Aortic Stenosis Gradient and Area Do Not Match: What Should I Do? <i>M. Saric</i>
8:15 AM	What Should a Successful TAVR Look Like for Echocardiographers? <i>R. Jain</i>
8:30 AM	Examples of TAVR Complications Seen by Echocardiographers <i>S. Mankad</i>
8:45 AM	Degenerated Bioprosthesis Valve-in-Valve: What Echocardiographers Should Look For <i>N. Faza</i>
9:00 AM	Question and Answer <i>All Presenters</i>

STRUCTURAL HEART DISEASE: PART II

Chairs: *A. Kaminski, W. Zoghbi*
Herberger Ballroom 3

9:15 AM	Mitral Regurgitation, Etiology, and Quantification <i>W. Zoghbi</i>
9:30 AM	Mitral Clip Measurements: It Worked and It Did Not Work <i>N. Faza</i>
9:45 AM	Measurements for TMVR, Sapiens in Degenerated Mitral Valve <i>M. Saric</i>
10:00 AM	Pathologies of Mitral Valve: Rheumatic, Eosinophilia, Degenerative <i>S. Mankad</i>
10:15 AM	Question and Answer <i>All Presenters</i>
10:30 AM	Refreshment Break and Visit Exhibits Herberger Ballroom 2

STRUCTURAL HEART DISEASE: PART III

Chairs: *N. Faza, J. Warmesbecker*
Herberger Ballroom 3

11:00 AM	Pathologies of Tricuspid Valve (Carcinoid, Flail, Vegetation) <i>S. Mankad</i>
11:15 AM	Tricuspid Valve Repair: The New Frontier <i>N. Faza</i>
11:30 AM	Left Atrial Appendage Occluder Device, Measurement <i>M. Saric</i>
11:45 AM	Measuring Normal Function of Prosthetic Valves <i>W. Zoghbi</i>
12:00 PM	Echo: Pathologic Correlation in Aortic Valve Disease, View from Anesthesia <i>G. Mackensen</i>
12:15 PM	Question and Answer <i>All Presenters</i>
12:30 PM	Lunch Break and Visit Exhibits Herberger Ballroom 2

SCIENCE & TECHNOLOGY THEATER

Sponsored by: *Pfizer*
Herberger Ballroom 3

12:45 PM	Transthyretin Amyloid Cardiomyopathy (ATTR-CM): Evaluating Clinical Findings to Support Earlier Diagnosis and Management Speaker: <i>Roxana Ghashghaei, MD</i> <i>UCI Health, Irvine, CA</i>
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AORTIC REGURGITATION

Chairs: *M. Malahfji, M. Umland*
Herberger Ballroom 3

2:00 PM	Aortic Regurgitation Illustrative Cases: What Is The Mechanism? <i>M. Malahfji</i>
2:15 PM	Prosthetic Valve Endocarditis <i>B. Khandheria</i>
2:30 PM	Case Examples of Quadricuspid, Bicuspid, Unicuspid Aortic Valve <i>M. Umland</i>
2:45 PM	Question and Answer <i>All Presenters</i>

DIASTOLOGY

Chairs: *C. Bergeron, J. Oh*
Herberger Ballroom 3

3:00 PM	Learn Clinical Diastology with Cases <i>J. Oh</i>
3:15 PM	When It Does Not Fit: Examples in Clinical Practice <i>S. Lester</i>
3:30 PM	Amyloid and Constriction <i>J. Oh</i>
3:45 PM	Question and Answer <i>All Presenters</i>
4:00 PM	Refreshment Break and Visit Exhibits Herberger Ballroom 2

CARDIOMYOPATHY

Chairs: *J. Betz, S. Lester*
Herberger Ballroom 3

4:30 PM	Cases: Variants of Hypertrophic Cardiomyopathy <i>J. Oh</i>
4:45 PM	Stress Cardiomyopathy: Variants as Seen on Echo <i>M. Malahfji</i>
5:00 PM	Systemic Illness and the Heart (Eosinophilia, Hemochromatosis, Hyperoxalosis) <i>S. Lester</i>
5:15 PM	Rapid Fire Cases: Pickelhaube, Duchenne, Pericardial Fat, Pericardial Effusion, Contrast Enhanced Imaging <i>N. Faza, B. Khandheria, S. Mankad</i>
5:30 PM	Question and Answer <i>All Presenters</i>
5:45 PM	Adjourn

MONDAY, FEBRUARY 20, 2023

RIGHT HEART, PULMONARY HYPERTENSION

Chairs: E. Kruse, M. Mukherjee

Herberger Ballroom 3

7:00 AM	Registration, Breakfast, and Visit Exhibits Herberger Foyer and Herberger Ballroom 2
8:00 AM	Evaluation of Right Ventricle: Learn by Cases R. Lang
8:15 AM	Pulmonary Hypertension: Optimal Evaluation M. Mukherjee
8:30 AM	Right Ventricular Strain: Cases to Illustrate How S. Lester
8:45 AM	Question and Answer All Presenters

MYOCARDIAL MECHANICS

Chairs: D. Ignatowski, S. Mankad

Herberger Ballroom 3

9:00 AM	Basic Myocardial Strain Imaging S. Mankad
9:15 AM	Clinical Examples of Utility of Global Longitudinal Strain S. Mankad
9:30 AM	Where Strain Falls Apart S. Lester
9:45 AM	Question and Answer All Presenters
10:00 AM	Refreshment Break and Visit Exhibits Herberger Ballroom 2

LEFT ATRIAL STRAIN

Chairs: C. Bergeron, B. Khandheria

Herberger Ballroom 3

10:30 AM	Left Atrial Strain: How to Obtain This J. Oh
10:45 AM	Utility of Left Atrial Strain: Case Examples M. Mukherjee
11:00 AM	Left Atrial Volume Should Replace Left Atrial Size: Examples of Why R. Lang
11:15 AM	Question and Answer All Presenters

MISCELLANEOUS TOPICS: PART I

Chairs: M. Malahfji, M. Umland

Herberger Ballroom 3

11:30 AM	Cardio Oncology: Case Examples M. Malahfji
11:45 AM	Diabetes and the Heart R. Jain
12:00 PM	Cases: Hypertension and Echocardiography M. Umland
12:15 PM	Question and Answer All Presenters
12:30 PM	Lunch and Final Chance to Visit Exhibits Herberger Ballroom 2

MISCELLANEOUS TOPICS: PART II

Chairs: M. Christensen, M. Saric

Herberger Ballroom 3

1:30 PM	Embolitic Events and the Heart M. Saric
1:45 PM	Masses in the Left Heart C. Bergeron
2:00 PM	Masses in the Right Heart R. Jain
2:15 PM	Normal and Abnormal Left Ventricular Assist Device Cases M. Christensen
2:30 PM	Question and Answer All Presenters
2:45 PM	Refreshment Break Herberger Foyer
3:00 PM	Atrial Septal Defect: Secundum, Sinus Venosus, Anomalous Pulmonary Veins M. Saric
3:15 PM	Abnormal Prosthetic Valve in Mitral Position J. Betz
3:30 PM	Abnormal Prosthetic Valve in Aortic Position M. Malahfji
3:45 PM	Fusion Imaging R. Jain
4:00 PM	Pulmonary Embolism and Right Ventricular Strain M. Mukherjee
4:15 PM	Patent Foramen Ovale and Pulmonary Arteriovenous Shunting: Saline Contrast Diagnosis and Nuances M. Malahfji
4:30 PM	Question and Answer All Presenters
4:45 PM	Closing Remarks S. Mankad, W. Zoghbi
5:00 PM	Adjourn



Exhibitor Information

Exhibit Location and Hours

Exhibits are located in Herberger Ballroom 2 during the dates and hours listed below.

Saturday, February 18..... 7:00 AM – 4:00 PM

Sunday, February 19..... 7:00 AM – 4:30 PM

Monday, February 20..... 7:00 AM – 1:30 PM

Exhibitor Descriptions



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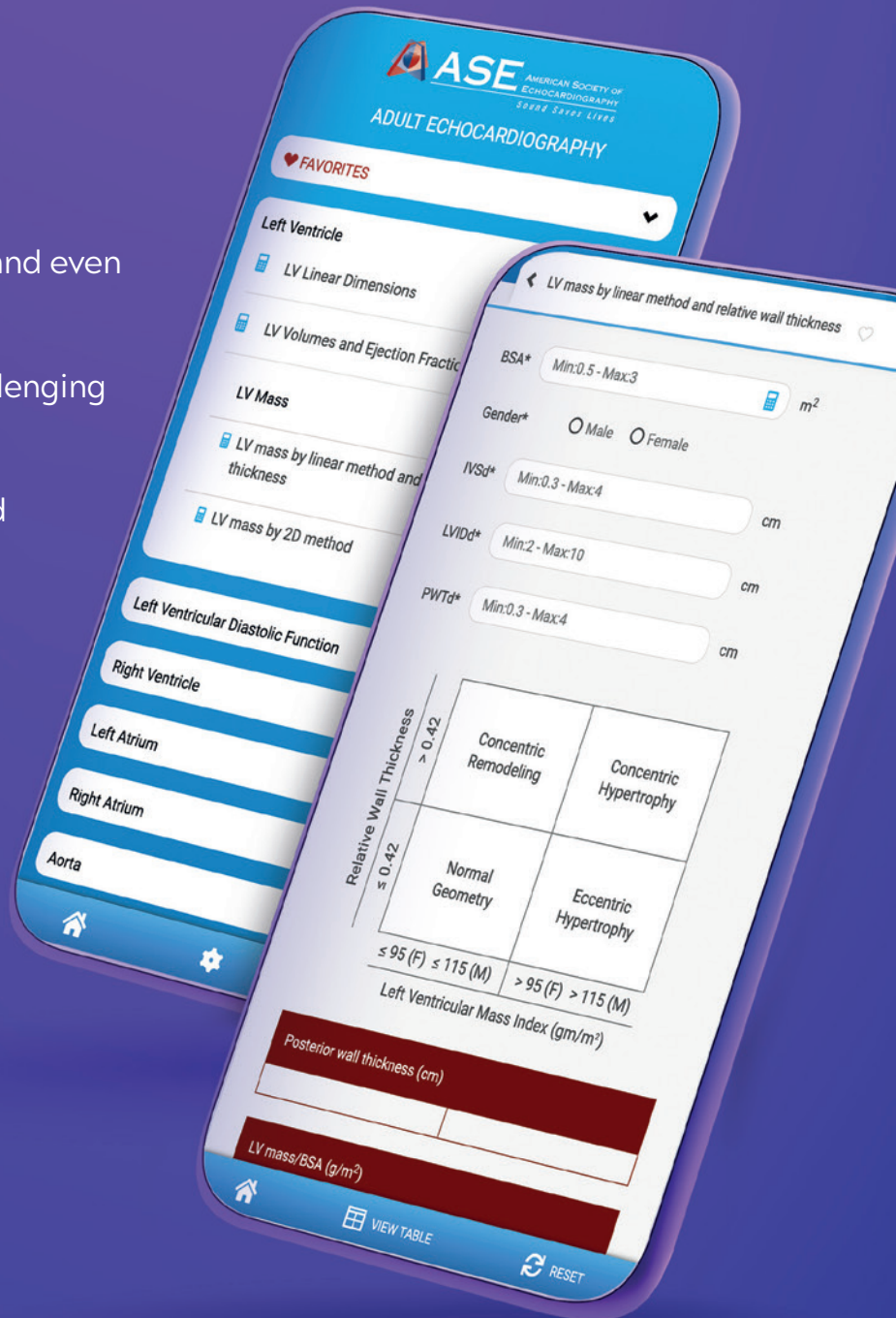
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