FEB. 24–26, 2017

7TH ANNUAL
MULTIMODALITY CARDIOVASCULAR IMAGING FOR THE CLINICIAN
Case-Based Approach, Live Cases and Small Group Tutorials

HOUSTON METHODIST RESEARCH INSTITUTE
HOUSTON, TEXAS
events.houstonmethodist.org/cvimaging

COURSE DIRECTOR
William A. Zoghbi, MD, FASE, FAHA, MACC

COURSE CO-DIRECTORS
Stephen H. Little, MD, FRCPC, FACC, FASE
John J. Mahmarian, MD, FACC, FSCCT, FASNC
Miguel A. Quiñones, MD, MACC
Dipan J. Shah, MD, FACC

A DeBakey Institute for Cardiovascular Education & Training event
## FRIDAY, FEB. 24, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Activity</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>7:00 A.M.</td>
<td><strong>REGISTRATION AND BREAKFAST</strong></td>
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<tr>
<td>7:45 A.M.</td>
<td>Welcome and Introductions</td>
<td>William A. Zoghbi, MD</td>
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<tr>
<td><strong>SESSION ONE</strong></td>
<td>CV Imaging Technology: What Are the Latest Innovations? What Should I Incorporate in Practice?</td>
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<tr>
<td>8:00 A.M.</td>
<td>3D Echocardiography: Latest Advances and Applications</td>
<td>Roberto M. Lang, MD</td>
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<td>8:15 A.M.</td>
<td>Quantitating Ventricular Function with Echocardiography: Is Strain Ready for Prime Time? Strengths and Pitfalls</td>
<td>Juan Carlos Plana, MD</td>
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<tr>
<td>8:30 A.M.</td>
<td>Contrast Echocardiography as a Powerful Tool in the Echo Lab: Impact on Diagnosis and Management</td>
<td>William A. Zoghbi, MD</td>
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<tr>
<td>8:45 A.M.</td>
<td>Cardiac CT Angiography: The Latest Technological Advances</td>
<td>Joao A. Lima, MD</td>
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<tr>
<td>9:00 A.M.</td>
<td>Cardiac MRI: Basic Concepts and New Developments</td>
<td>Dipan J. Shah, MD</td>
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<tr>
<td>9:15 A.M.</td>
<td>What is New in Nuclear Cardiology?</td>
<td>John J. Mahmarian, MD</td>
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<tr>
<td>9:30 A.M.</td>
<td>Question &amp; Answer Session • Panel Discussion</td>
<td>All Faculty</td>
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<tr>
<td><strong>BREAK AND EXHIBITS</strong></td>
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<tr>
<td><strong>SESSION TWO</strong></td>
<td>Ischemic Heart Disease: Role of Noninvasive Imaging</td>
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<tr>
<td>10:30 A.M.</td>
<td>Value of Imaging for Risk Stratification and CV Prevention in the New Guidelines: When Should We Use CT Calcium Score or Carotid Ultrasound?</td>
<td>Vijay Nambi, MD, PhD</td>
</tr>
<tr>
<td>10:45 A.M.</td>
<td>Functional Versus Anatomic Assessment of CAD: What has the PROMISE Trial Delivered? When Should We Use Stress Testing vs. CT?</td>
<td>Joao A. Lima, MD</td>
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<tr>
<td>11:00 A.M.</td>
<td>CT Coronary Angiography: Going Beyond Coronary Stenosis. Does it Predict Coronary Events? Is FFR from Resting Studies Really Possible?</td>
<td>John J. Mahmarian, MD</td>
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<tr>
<td>11:15 A.M.</td>
<td>Stress MRI in Coronary Artery Disease: The New Contender — When Should it Be First Choice?</td>
<td>William G. Hundley, MD</td>
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<tr>
<td>11:30 A.M.</td>
<td>Now You are in the Catheterization Laboratory: Comparative Role of OCT, IVUS and FFR in CAD Assessment?</td>
<td>Colin M. Barker, MD</td>
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<tr>
<td>11:45 A.M.</td>
<td>Question &amp; Answer Session • Interesting Cases in Coronary Artery Disease with Audience Response • Panel Discussion</td>
<td>John J. Mahmarian, MD, Joao A. Lima, MD</td>
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<tr>
<td>12:30 P.M.</td>
<td>**LUNCH</td>
<td>THIRD COAST RESTAURANT**</td>
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<tr>
<td><strong>SESSION THREE</strong></td>
<td>Role of Imaging in Heart Failure and at the Point of Care</td>
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<tr>
<td>1:30 P.M.</td>
<td>Doppler Echocardiography and Diastology: How to Estimate Filling Pressures — What Are the Pitfalls?</td>
<td>Sherif F. Nagueh, MD</td>
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<tr>
<td>2:00 P.M.</td>
<td>Don’t Forget About the Right Heart: Importance of RV Function and Tricuspid Regurgitation in Heart Failure — What to Look For</td>
<td>Steven A. Goldstein, MD</td>
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<td>2:15 P.M.</td>
<td>Cardio-Oncology: Recommendations from the Guidelines</td>
<td>Juan Carlos Plana, MD</td>
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<tr>
<td>2:30 P.M.</td>
<td>CMR in Heart Failure: Impact on Etiologic Assessment and Prognosis</td>
<td>Dipan J. Shah, MD</td>
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<td>2:45 P.M.</td>
<td>Point of Care Echo: Where Do We Stand?</td>
<td>Roberto M. Lang, MD</td>
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<tr>
<td>3:00 P.M.</td>
<td>Question &amp; Answer Session</td>
<td>All Faculty</td>
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<td>3:15 P.M.</td>
<td><strong>BREAK AND EXHIBITS</strong></td>
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<tr>
<td><strong>SESSION FOUR</strong></td>
<td>Live and Taped Case Studies from the Imaging Laboratories</td>
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<tr>
<td>3:45 P.M.</td>
<td>Live Cases and Interesting Case Studies—From around the country and the Texas Medical Center with audience response and panel discussion (CAD, contrast echo, heart failure and viability, cardiac masses, and cardio-oncology)</td>
<td>Roberto M. Lang, MD, William G. Hundley, MD, Dipan J. Shah, MD, Raymond F. Stainback, MD, Gustavo Restrepo, MD, Joao A. Lima, MD</td>
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<tr>
<td>5:30 P.M.</td>
<td>**ADJOURN</td>
<td>RECEPTION AT THIRD COAST RESTAURANT**</td>
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</table>
SATURDAY, FEB. 25, 2017

7:00 A.M. SIGN-IN AND BREAKFAST

SESSION FIVE ▶ Valvular Heart Disease I: The Mitral Valve
Moderators: Colin M. Barker, MD, and Gerald M. Lawrie, MD

8:00 A.M. Demonstration of Valvular Anatomy – Pathology and Correlation with Imaging
8:15 A.M. Mitral Regurgitation: The New ASE Guidelines. Role of 2-D/3-D and CMR
8:45 A.M. Repairing the Mitral Valve: Current Surgical Approach to Mitral Preservation
9:00 A.M. State-of-the-Art Percutaneous Techniques for Mitral Valve Repair and Replacement
9:15 A.M. Tricuspid Valve Regurgitation — The New Frontier
9:30 A.M. Question & Answer Session • Interesting Cases in Mitral Valve Disease with Audience Response • Panel Discussion

10:15 A.M. BREAK AND EXHIBITS

SESSION SIX ▶ Valvular Heart Disease II: The Aortic and Prosthetic Valves
Moderators: Stephen H. Little, MD, and Michael J. Reardon, MD

10:45 A.M. Aortic Stenosis: When to Intervene on the Asymptomatic Patient? What is Paradoxical Low Flow AS?
11:00 A.M. TAVR: Optimizing the Choice of Prosthesis and Patient
11:15 A.M. What is Needed from the Imager for TAVR Decision-making and Procedure?
11:30 A.M. How Do You Evaluate Prosthetic Valve Function?
11:45 A.M. The "Interventional Imager": Evolving Role in the Heart Team
NOON Question & Answer Session • Complex Cases in Aortic Valve Disease with Audience Response • Panel Discussion

12:15 P.M. LUNCH

SESSION SEVEN ▶ Read With the Experts

1:15 P.M. See Page 5 for further details.

5:00 P.M. ADJOURN | EVENING ON YOUR OWN

SUNDAY, FEB. 26, 2017

7:00 A.M. SIGN-IN AND BREAKFAST

SESSION EIGHT ▶ Adult Congenital Heart Disease, Diseases of the Aorta and Peripheral Vasculature
Moderators: Alan B. Lumsden, MD, and C. Huie Lin, MD, PhD

8:00 A.M. Adult Congenital Heart Disease: What Are the Most Common Untreated Conditions That Should Not Be Missed?
8:30 A.M. Post-operative Congenital Heart Disease in the Adult: How Do You Recognize Common Conditions? Indicators of Outcome?
9:00 A.M. Evaluating Carotid Disease with Vascular Ultrasound: General Guidelines — When is Angiography/CT or MRI Indicated?
9:20 A.M. What Are the Best Techniques to Evaluate the Aorta: Echo vs. CT vs. Dynamic MRI?
9:40 A.M. Percutaneous Interventions for Aortic Aneurysm: What Does the Clinician Need to Know? What Does the Surgeon Want to Know from the Imager Prior to and After the Procedure?

10:00 A.M. BREAK AND EXHIBITS

10:30 A.M. Peripheral Vascular Disease: Should it be CT or MRI Imaging?
10:45 A.M. Venous Disease: New Insights and Therapies — How to Use Imaging
11:00 A.M. Interesting Cases with Audience Response and Panel Discussion
11:45 A.M. Program Evaluation and Wrap-Up

12:00 P.M. ADJOURN
### SESSION SEVEN: READ WITH THE EXPERTS

Hosted by the DeBakey Institute for Cardiovascular Education & Training

**Saturday, Feb. 25, 2017 • 1:15 – 5 p.m.**

#### 1:15-3 p.m.

Interesting and complex case studies using multimodality imaging with audience response and panel discussion: Valvular heart disease, structural heart disease and interventions, pericardial disease, athletic heart, LVAD assessment

Roberto M. Lang, MD, Randolph Martin, MD, Su Min Chang, MD, Dipan J. Shah, MD, Raymond F. Stainback, MD, Karla Kurrelmeyer, MD and Gustavo Restrepo, MD

*Moderators: Randolph Martin, MD, and William A. Zoghbi, MD*

#### 3:30-5 p.m.

**Small Group Interactive Sessions: Basics of Image Manipulation and Case Studies**

Attendees can attend any of the four simultaneous small groups sessions dedicated for each modality.

<table>
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<tr>
<th>3-D Echocardiography &amp; TEE</th>
<th>Transthoracic Echocardiography &amp; Quantitation</th>
<th>CT Coronary Angiography, Aortography &amp; Nuclear Cardiology</th>
<th>Cardiac &amp; Vascular MRI</th>
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<tr>
<td>CASE STUDIES</td>
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<td>Karla M. Kurrelmeyer, MD</td>
<td>Joao A. Lima, MD</td>
<td>Dipan J. Shah, MD</td>
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<tr>
<td>Randolph Martin, MD</td>
<td>Sherif F. Nagueh, MD</td>
<td>Su-Min Chang, MD</td>
<td>Faisal Nabi, MD</td>
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5 p.m. **ADJOURN | EVENING ON YOUR OWN**

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**CONFERENCE LOCATION**

HOUSTON METHODIST RESEARCH INSTITUTE

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Chair, Department of Cardiology
Elkins Family Distinguished Chair in Cardiac Health
Professor of Medicine
Houston Methodist
Weill Cornell Medical College

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Associate Professor of Clinical Medicine,
Houston Methodist
Weill Cornell Medical College

John J. Mahmarian, MD, FACC, FASNC, FSCCT
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Houston Methodist
Weill Cornell Medical College

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Weill Cornell Medical College

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Chicago, Ill.

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Johns Hopkins Medicine
Baltimore, Md.

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Director, Adult Congenital Heart Program
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Weill Cornell Medical College

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Baltimore, Md.

Sherif F. Nagueh, MD
Professor of Cardiology
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Weill Cornell Medical College

Raymond F. Stainback, MD, FACC, FASE
Medical Director, Non-Invasive Cardiology
Texas Heart Institute at Baylor St. Luke’s Medical Center
Associate Professor, Cardiology
Baylor College of Medicine
Houston, Texas

All course directors and faculty are from Houston Methodist Hospital, Houston, Texas unless otherwise noted.
MULTIMODALITY CARDIOVASCULAR IMAGING
FOR THE CLINICIAN

PROGRAM OVERVIEW
Cardiovascular imaging plays a vital role in the management of the cardiovascular patient. Knowledge of various imaging modalities is critical to understanding their advantages, limitations and appropriate utilization in patients with ischemic heart disease, heart failure, atrial fibrillation, cardiomyopathy, masses, valvular disease, and aortic disease. In addition to didactic lectures by world experts, this symposium offers the opportunity to participate in small-group tutorials for each imaging modality and demonstrations of heart anatomy, as well as observe live procedural cases. These sessions will allow participants to better visualize and understand cardiac and valvular structure, and enhance correlations with cardiac imaging.

TARGET AUDIENCE
Cardiologists, cardiovascular surgeons, anesthesiologists, internists, radiologists, critical care physicians, advanced cardiovascular practitioners, cardiovascular nurses, sonographers, fellows in training, cardiovascular imaging technologists in areas such as echocardiography, nuclear cardiology, cardiac CT and cardiac MRI will benefit from this course.

EDUCATIONAL OBJECTIVES
• Discuss new developments in multimodality imaging
• Compare the different types of imaging for the assessment of ischemia to determine which is the most beneficial for the specified clinical question
• Evaluate valve and heart morphology and relate them to valvular imaging and interventions
• Describe the timing and interventions in common valvular disorders
• Discuss how imaging can be utilized to differentiate cardiomyopathies and masses
• Explain the role of imaging in vascular disease and diseases of the aorta
• Summarize the most common congenital heart disease disorders seen in the adult and their salient imaging features

ACCREDITATION AND CREDIT DESIGNATION STATEMENTS
Physicians
Houston Methodist is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Houston Methodist designates this live activity for a maximum of 18.0 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nursing
Houston Methodist is an approved provider of continuing nursing education by the Texas Nurses Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.

Houston Methodist provides up to 18.0 contact hours for this activity. Participants must attend selected sessions in their entirety and complete the corresponding items on the evaluation tool.

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

Other credit
CE credit has been applied for through the American Society of Radiologic Technologists (ASRT). Please check the event website for updates.

EDUCATIONAL METHODS
Didactic lectures, live cases, heart specimen demonstrations, case studies, small group tutorials with imaging stations, panel discussions, audience response system

EVALUATION
Evaluation by questionnaire will address program content, presentation, possible bias and intent to change current practice.

ADA STATEMENT
In compliance with the Americans with Disabilities Act, Houston Methodist will make reasonable efforts to accommodate persons with disabilities at this symposium. Please call 713.441.4971 for further information or if you need special assistance.

CANCELLATION/REFUND POLICY
Requests for registration refunds must be in writing and received by the Office of Continuing Medical Education (OCME) at least 10 business days before the course begins. The date the request is received by the OCME will be considered the cancellation date. Requests received after the refund deadline will not be processed. Cancellations are subject to an administrative fee deducted from the registration fee paid to cover guarantees and other expenses. Requests should be mailed to the OCME or faxed to 713.441.0589.

The OCME reserves the right to cancel activities, not less than 10 business days before the scheduled date, if extenuating circumstances make it necessary. Registrants will be notified at the contact number indicated on the registration form followed by written notification. If an activity is cancelled, OCME’s liability is limited to the registration fee paid. Note: If payment is made by check, a social security number is required to process the refund.

DISCLOSURE
This CME activity is designed for use by health care professionals for educational purposes only. Information and opinions offered by the contributors represent their viewpoints. Conclusions drawn by the participant should be derived from careful consideration of all available scientific information. Prescription information and use of medical devices should be undertaken only after confirmation of information by consulting the FDA-approved uses and information.

Houston Methodist makes every effort to have accurate information presented; no warranty, expressed or implied, is offered. The participant should use his/her clinical judgment, knowledge, experience and diagnostic decision-making before applying any information, whether provided here or by others, for any professional use.

FOR FURTHER INFORMATION
Office of Continuing Medical Education
6670 Bertner Ave. R2-216 • Houston, TX 77030
Email: cme@houstonmethodist.org
Phone: 713.441.4971 • Fax: 713.441.0589
Visit our website at houstonmethodist.org/cme for information about other Houston Methodist CME activities.

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7TH ANNUAL
MULTIMODALITY CARDIOVASCULAR IMAGING FOR THE CLINICIAN
Case-Based Approach, Live Cases and Small Group Tutorials
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REGISTRATION
FOUR WAYS TO REGISTER

Online:
events.houstonmethodist.org/cvimaging
Phone: 713.441.4971
Fax: 713.441.0589
Mail: Houston Methodist (OCME)
Attn: Multimodality Imaging (#298)
6670 Bertner Ave. R2-216
Houston, TX 77030

(Please print clearly)

MEMBERS* (ACC or ASE)

- Physician/Science Member (member #___________) $480

NON-MEMBERS

- Physician $600
- Other Health Care Professional (Nurse, Sonographer, Radiologic Technologist, etc.) No fee
- Resident/Fellow/Student No fee

*ACC or ASE member number is required.

Last Name: _______________________________ First Name: _____________________ Credentials: ______________________
Organization: _________________________________________________________________________________
Specialty: ___________________________________________________________________________________
Title/Position: _______________________________________________________________________________
Address: ___________________________ City: ___________ State: ___________ ZIP: __________
Office Phone: ___________________________ Office Fax: ______________________________
Email: ________________________________

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☐ Credit Card: I authorize Houston Methodist Hospital to charge my: ☐ Visa® ☐ MasterCard® ☐ AMEX®
Credit Card No. ____________________________ Exp. Date: __________________
Name on the Card: __________________________________________________________________________
Authorized Signature: _______________________________________________________________________

☐ Special/Dietary needs (specify): __________________________________________________________________________________

☐ Do not include me in future mailing lists

ACCOMMODATIONS AND RESERVATIONS

Houston Marriott at the Texas Medical Center • 6580 Fannin St., Houston, TX 77030 • 713.796.0080
Please identify yourself with the Multimodality CV Imaging conference when making reservations in order to get the special group rate ($139 single/double). A limited number of rooms have been reserved at this rate on a space available basis. The deadline to receive this rate is Feb. 2, 2017, unless the room block has already been filled. RESERVE YOUR ROOM EARLY.
7th Annual Multimodality Cardiovascular Imaging for the Clinician

Case-Based Approach, Live Cases and Small Group Tutorials

FEB. 24–26, 2017

Houston Methodist Research Institute

Quotes from previous attendees

“I thoroughly enjoyed the three-day program. Dr. Zogbi and associates did a wonderful job presenting, and the workshops were very interesting. Thank you!”

“I would like to thank Dr. Zoghbi and his team for such an excellent meeting. It was useful, excellent and interactive.”

In cosponsorship with

Texas Chapter

SCMR

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HOUSTON METHODIST RESEARCH INSTITUTE

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A DeBakey Institute for Cardiovascular Education & Training event