



Division of Cardiovascular Diseases

# The 23rd Annual Echocardiographic Workshop on 2-D and Doppler Echocardiography *at Vail*

*March 7-10, 2016 (Pre-registration: March 6)*

**Vail Marriott • Vail, CO**

## **Program Directors:**

*George M. Gura, Jr., M.D. – Mayo Clinic*

*Thomas Ryan, M.D. – The Ohio State University*

## **Faculty:**

*Christopher P. Appleton, M.D.*

*William F. Armstrong, M.D.*

*Paul M. Bastiansen, RDCS*

*William K. Freeman, M.D.*

*Jerry H. Greenberg, M.D.*

*Martha Grogan, M.D.*

*Kyle W. Klarich, M.D.*

*Joan L. Lusk, RN, RDCS, FASE*

*Bassem N. Mora, M.D.*

*Rick A. Nishimura, M.D.*

*Michael H. Picard, M.D.*

*James D. Thomas, M.D.*

*Carole A. Warnes, M.D.*



In Collaboration With:  
*The Ohio State University*



# **REGISTER ONLINE NOW!**

[celinks.mayo.edu/echomarch2016](http://celinks.mayo.edu/echomarch2016)

# GENERAL INFORMATION

## COURSE DESCRIPTION

This program will provide a comprehensive review of state-of-the-art 2-D, Doppler and transesophageal echocardiography with a strong emphasis on newer and more rapidly changing areas. The topics to be covered include diastology, ischemic heart disease, valvular heart disease, application of TEE in clinical practice, and cardiomyopathy. The role of echo relative to the newer imaging modalities will be discussed. There are also afternoon workshops on heart failure, hemodynamics, congenital heart disease, and stress echo. The final workshop will include a series of clinical cases which will focus on integrating various imaging modalities to provide the highest quality of patient care. The course is designed for the clinician and sonographer who are actively involved in adult echocardiography and wish to gain additional practical experience in these specific areas. Daily reading sessions will provide the opportunity to interpret case studies and to compare and discuss diagnoses with the faculty. An integrated format combining theory and practice will be utilized. In the morning sessions, a traditional lecture series will present state-of-the-art information on selected topics. Application of the techniques to clinical practice will be emphasized.

In the afternoon, attendees will have the opportunity to apply the lecture material in a workshop environment. A large number of cases will be presented, analyzed and discussed. Each afternoon, attendees will be able to participate in reading sessions, covering a wide spectrum of diseases in clinical cardiology. There will be live case demonstrations on Monday and Tuesday afternoons with patients from the local area.

## TEACHING MATERIALS/SYLLABUS

Attendees will be provided a link to obtain course materials on the internet and are welcome to bring a laptop or iPad during the learning sessions.

## COURSE LEARNING OBJECTIVES

Upon conclusion of this program, participants should be able to:

- Use echocardiographic and Doppler methods to assess hemodynamics and cardiac function
- Demonstrate the application of Doppler principles to assessing hemodynamics including valvular heart disease
- Apply stress testing combined with the use of cardiac ultrasound
- Utilize echocardiography to determine which patients should be referred for surgery versus medical therapy for the treatment of cardiovascular disease

Attendance at this Mayo course does not indicate nor guarantee competence or proficiency in the performance of any procedures which may be discussed or taught in this course.

## INTENDED AUDIENCE

Clinical cardiologists and cardiac sonographers with interest in echocardiography, cardiology trainees; application specialists, surgeons, anesthesiologists, and physician echocardiographers.

## CREDIT

Mayo Clinic College of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Mayo Clinic College of Medicine designates this live activity for a maximum of 16.25 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

# GENERAL INFORMATION

## Other Health Care Professionals

A certificate of attendance will be provided to other health care professionals for requesting credits in accordance with state nursing boards, specialty societies, or other professional associations.

Attendees should ensure in advance that their credentialing or licensing organization accepts *AMA PRA Category 1 Credits™* from the sponsor of this activity.

## EDUCATIONAL GRANTS

At the time of this printing, a complete listing of commercial supporters was not available. Appropriate acknowledgment will be given to all supporters at the time of the meeting.

Exhibits will be available for viewing at all scheduled breaks.

## DATE AND LOCATION

The *Echocardiographic Workshop on 2-D and Doppler* conference will be held March 7-10, 2016 (Pre-registration March 6 from 5:00-6:00 p.m.). Course headquarters will be located in Vail Marriott, 715 West Lionshead Circle, Vail, CO 81657 in the Grand Ballroom on the lower level. Meeting site telephone: 970-476-4444; Guest Fax: 970-476-1647.

## TRAVEL

Vail has a well-deserved reputation as one of the most remarkable ski resorts in the world if not the finest in the USA. Vail village is located 100 miles west of Denver along Interstate 70. Registrants may either fly to Denver's International Airport (DEN) and take the two and one-half hour drive to Vail or fly directly to Eagle County Airport (EGE) (approximately 35 miles away). Information on the options for transportation from Denver to Vail and from Eagle County to Vail will be provided on the website. A rental car is not necessary while staying in Vail. In addition to the outstanding alpine skiing, Vail in the winter also offers cross-country skiing, skating, snowmobiling, and excellent restaurants and shops. It is a superb family ski resort.

*Travel arrangements are the sole responsibility of the individual registrant.*

## TRANSPORTATION

Special discounted transportation through Colorado Mountain Express has been arranged for a rate of \$72.00 from Denver Airport and \$40.00 from Eagle Airport one way. To make your reservation, please call 800-525-6363 and ask for the special ECHO rate.

## DISCOUNTED LIFT TICKETS

Lift tickets and rental equipment at reduced prices are available to the participants. The downhill slopes open from 8:30 a.m. to 3:30 p.m. on the largest ski resort in North America. A near equal mix of beginning, intermediate and advanced ski trails are available, and promotes an environment for safe family skiing. There are numerous cross-country ski trails available with groomed, double-set trails at the bottom and the top of the mountain in Vail and in Beaver Creek. The Vail Marriott Mountain Resort & Spa is located within a few short steps of the famous Vail Gondola and high speed lifts which transport skiers to breathtaking vistas at the top of Vail Mountain. The famous Vail back bowls have been significantly expanded.



# GENERAL INFORMATION

This group rate is good during the entire meeting to include Vail, Beaver Creek, Keystone and Breckenridge, however, must be purchased in advance. Discounted lift ticket forms are also available on the meeting website.

## DISCOUNTED SKI RENTALS

Discounted rental equipment is available from Charter Sports which is located in the Vail Marriott Mountain Resort & Spa. Rental equipment forms are posted on the meeting website.

## LODGING ACCOMMODATIONS

The Vail Marriott guestrooms offer more living space in each room, fireplaces in some guestrooms, kitchenettes in suites, granite bathrooms with princess soaking tubs and fine wood appointments. The property also has a European Spa, indoor/outdoor pool & hot tubs, restaurant and bar. The symposium is scheduled at the beginning of the spring ski season at a time when snowfall is most plentiful, and near perfect skiing conditions are most likely to occur.

To secure your room at the Vail Marriott Mountain Resort & Spa, please call 877-622-3140 or 970-476-4444 and state that you are attending the ECHO WINTER program.

Limited rooms are available at a room rate of \$325 single/double a night. Once that block is full, the rate will be \$385 until they are gone. When you make your reservation, please be sure to ask about any additional resort fees, early departure fees, or cancellation penalties. The resort room blocks are scheduled to be held until Saturday, February 6, 2016 but have been sold out before this date in the past.

All reservation requests will require a credit card guarantee. Full, non-refundable, amount of the anticipated revenue (room and tax) for the entire stay will be billed to the individual credit card 30 days prior to arrival. Personal checks, money orders or a valid major credit card will be needed for the deposit. If reservation is cancelled within 30 days prior to arrival, individual will forfeit the deposit for all nights reserved. This is a busy time in Vail, and if you intend to extend your stay or arrive early to include a family vacation, we would recommend early registration to secure room arrangements.

To book on-line: <https://resweb.passkey.com/go/ECHOWINTER2016>

We encourage participation by all individuals. If you have a disability, advance notification of any special needs will help us better serve you.

For further information regarding the area and its attractions, please refer to:  
<http://www.visitvailvalley.com/>

Mayo Clinic is not responsible for expenses incurred by an individual who is not confirmed and for whom space is not available at the meeting. Costs incurred by the registrant such as airline or hotel fees or penalties are the responsibility of the registrant.

We encourage participation by all individuals. If you have a disability, advance notification of any special needs will help us better serve you.



## FACULTY

### Course Directors

*George M. Gura, Jr., M.D., FACC*  
Associate Professor of Medicine, Mayo Clinic; Consultant, Division of Cardiovascular Diseases; Director, International Cardiology Clinic, Mayo Clinic, Rochester, MN

*Thomas Ryan, M.D., FACC, FASE*  
Professor of Medicine; Director, The Ohio State University Heart Center; John G. and Jeanne Bonnet McCoy Chair in Cardiovascular Medicine, Davis Heart & Lung Research Institute, Columbus, OH

### Faculty

*Christopher P. Appleton, M.D., FACC*  
Professor of Medicine, Mayo Clinic; Consultant, Division of Cardiovascular Diseases, Mayo Clinic, Scottsdale, AZ

*William F. Armstrong, M.D., FACC*  
Professor of Internal Medicine; Associate Clinical Chief, Division of Cardiology; University of Michigan Health System, Ann Arbor, MI

*Paul M. Bastiansen, RDCS*  
Advanced Clinical and Research Sonographer, Cardiovascular Ultrasound Imaging and Hemodynamic Laboratory, Mayo Clinic, Rochester, MN

*William K. Freeman, M.D., FACC, FASE*  
Professor of Medicine; Consultant, Division of Cardiovascular Diseases, Mayo Clinic, Phoenix, AZ

*Jerry H. Greenberg, M.D., FACC*  
The Medical Center of Aurora, Aurora, CO and Vail Valley Medical Center, Vail, CO

*Martha Grogan, M.D., FACC*  
Assistant Professor of Medicine, Mayo Clinic; Consultant, Division of Cardiovascular Diseases, Mayo Clinic, Rochester, MN

*Kyle W. Klarich, M.D., FACC, FAHA*  
Associate Professor of Medicine, Mayo Clinic; Consultant, Division of Cardiovascular Diseases, Mayo Clinic, Rochester, MN

*Joan L. Lusk, RN, RDCS, FASE*  
Assistant Professor of Medicine, Mayo Clinic; Advanced Cardiac Sonographer Adult and Adult Congenital Heart Disease Clinic, Mayo Clinic, Scottsdale, AZ

*Bassem N. Mora, M.D.*

Associate Professor of Surgery, Mayo Clinic; Senior Associate Consultant, Mayo Clinic; Consultant, Division of Cardiovascular Surgery, Mayo Clinic, Rochester, MN

*Rick A. Nishimura, M.D., MACC, MACP*  
Judd and Mary Morris Leighton Professor of Cardiovascular Diseases; Professor of Medicine, Mayo Clinic; Consultant, Division of Cardiovascular Diseases; Mayo Clinic, Rochester, MN

*Michael H. Picard, M.D., FACC, FAHA, FASE*  
Professor, Harvard Medical School; Director, Clinical Echocardiography, Massachusetts General Hospital, Boston, MA

*James D. Thomas, M.D., FACC, FAHA, FESC, FASE*  
Director, Center for Heart Valve Disease; Director, Academic Affairs, Bluhm Cardiovascular Institute, Northwestern Memorial Hospital, Northwestern University Feinberg School of Medicine, Chicago, IL

*Carole A. Warnes, M.D., FACC*  
Professor of Medicine, Mayo Clinic; Consultant, Division of Cardiovascular Diseases; Consultant, Section of Pediatric Cardiology; Mayo Clinic, Rochester, MN

## FACULTY DISCLOSURE

As a provider accredited by ACCME, Mayo Clinic College of Medicine (Mayo School of Continuous Professional Development) must ensure balance, independence, objectivity and scientific rigor in its educational activities. Course director(s), planning committee, faculty, and all others who are in a position to control the content of this educational activity are required to disclose all relevant financial relationships with any commercial interest related to the subject matter of the educational activity. Safeguards against commercial bias have been put in place. Faculty also will disclose any off-label and/or investigational use of pharmaceuticals or instruments discussed in their presentation. Disclosure of this information will be published in course materials so those participants in the activity may formulate their own judgments regarding the presentation.

# PROGRAM SCHEDULE

## SUNDAY, MARCH 6, 2016

5:00-6:00 p.m. Registration – Grand Ballroom Foyer, Lower Level

## MONDAY, MARCH 7, 2016

6:30 a.m. Registration and Continental Breakfast

7:15 a.m. Welcome and Introduction  
*Drs. Gura and Ryan*

CHF

*Dr. Thomas Ryan, presiding*

7:30-7:50 a.m. Complications of MI: Role of Echo, Quantifying Function  
*Dr. James D. Thomas*

7:50-8:10 a.m. Echo in Congestive Heart Failure: What the Heart Failure Specialist Needs From Ultrasound  
*Dr. Thomas Ryan*

8:10-8:30 a.m. Echo Findings in Systemic Diseases, Including Amyloid, Sarcoid, and Other Cardiomyopathies  
*Dr. Martha Grogan*

8:30-8:50 a.m. A Practical Approach to Diastolic Dysfunction  
*Dr. Rick A. Nishimura*

8:50-9:10 a.m. Left Heart Failure: A Multimodality Approach  
*Dr. James Thomas*

9:10-9:30 a.m. Questions and Answers  
*Drs. Thomas, Grogan, and Nishimura; Dr. Ryan, moderator*

### WORKSHOPS

4:00-5:00 p.m. Clinical Decision Making Cases in Heart Failure – Live Scanning  
*Dr. Martha Grogan and Ms. Joan Lusk*

5:00-6:00 p.m. Difficult Stress Echo Cases  
*Dr. William F. Armstrong*

## TUESDAY, MARCH 8, 2016

7:00 a.m. Continental Breakfast

### THE VERSATILITY OF ECHO

*Dr. George M. Gura, Jr., presiding*

7:30-7:50 a.m. Acute Aortic Syndromes: Role of TEE and Multimodality Imaging  
*Dr. William K. Freeman*

7:50-8:10 a.m. Cardio-Oncology: What We Need to Know  
*Dr. Michael H. Picard*

- 8:10-8:30 a.m.     An Update in Hypertrophic Cardiomyopathy  
*Dr. Rick A. Nishimura*
- 8:30-8:50 a.m.     Flying Things on Valves: How to Formulate a Great Differential and Plant Next Steps  
*Dr. Kyle W. Klarich*
- 8:50-9:10 a.m.     Athletic Heart vs HCM: Diagnosis and Cases  
*Dr. Christopher P. Appleton*
- 9:10-9:30 a.m.     Questions and Answers  
*Drs. Freeman, Picard, Nishimura, Klarich, and Appleton;*  
*Dr. Gura, moderator*

#### WORKSHOP

- 4:00-6:15 p.m.     Live Case Scanning  
*Drs. Nishimura, Greenberg, Mora, Mr. Bastiansen, and Ms. Lusk*

- 6:30-7:30 p.m.     Welcome Reception in Ballroom Foyer  
*All Participants, Faculty, Exhibitors, and Guests Invited*

## WEDNESDAY, MARCH 9, 2016

- 7:00 a.m.            Continental Breakfast

#### VALVULAR HEART DISEASES

*Dr. Thomas Ryan, presiding*

- 7:30-7:50 a.m.     The New Valve Guidelines: How Will They Change Our Approach to Patients?  
*Dr. Rick A. Nishimura*
- 7:50-8:10 a.m.     Aortic Insufficiency: When to Intervene? Is Surgery Ever Justified in the Asymptomatic Patient?  
*Dr. Kyle W. Klarich*
- 8:10-8:30 a.m.     New Concepts in AS and the Evolving Role of TAVR  
*Dr. William F. Armstrong*
- 8:30-8:50 a.m.     Uncommon Valvular Heart Disease: Radiation Induced, Drug Associated, Systemic Disease  
*Dr. William K. Freeman*
- 8:50-9:10 a.m.     The Broad Spectrum of Mitral Regurgitation: New Treatment Options?  
*Dr. Michael H. Picard*
- 9:10-9:30 a.m.     Questions and Answers  
*Drs. Nishimura, Klarich, Armstrong, Freeman, and Picard; Dr. Ryan, moderator*

#### WORKSHOPS

- 4:00-5:00 p.m.     Hemodynamic Cases  
*Dr. Kyle W. Klarich*
- 5:00-6:00 p.m.     Valvular Regurgitation/Prosthetic Valve Assessment  
*Dr. Michael H. Picard*



# THURSDAY, MARCH 10, 2016

7:00 a.m. Continental Breakfast

## CHD AND OTHER TOPICS

*Dr. Rick A. Nishimura, presiding*

7:30-7:50 a.m. What We Should Know About Imaging Patients With ACHD  
*Dr. Carole A. Warnes*

7:50-8:10 a.m. Infective Endocarditis  
*Dr. William K. Freeman*

8:10-8:30 a.m. Pregnancy and Heart Disease: Role of Imaging  
*Dr. Carole A. Warnes*

8:30-8:50 a.m. The Right Heart: Pulmonary Hypertension and RV Function  
*Dr. Christopher P. Appleton*

8:50-9:10 a.m. Strain Cases  
*Dr. James D. Thomas and Mr. Paul Bastiansen*

9:10-9:30 a.m. Questions and Answers  
*Drs. Warnes, Freeman, and Appleton; Dr. Nishimura, moderator*

## WORKSHOPS

4:00-5:00 p.m. Cases in Adult CHD  
*Dr. Carole A. Warnes*

5:00-6:00 p.m. Selected Cases  
*All Faculty*

6:00 p.m. Adjourn





# REGISTRATION

## Register online:

*[celinks.mayo.edu/echomarch2016](http://celinks.mayo.edu/echomarch2016)*

### Registration Fee:

Course Registration (MD, PhD, DO)	\$770.00
Course Registration (Fellows, Sonographers, RN)	\$575.00

Registration is only available at:

*[celinks.mayo.edu/echomarch2016](http://celinks.mayo.edu/echomarch2016)*

Mayo Clinic Division of Cardiovascular Diseases implemented an online conference registration system in January 2012. If this is your first time using the online system, you will need to create a profile. The attendee's email address is required upon registration. A letter of confirmation and receipt will be forwarded to this email address upon receipt of submitted registration and payment. Present this letter when checking in at the meeting registration desk.

The registration fee includes tuition, electronic course syllabus, continental breakfasts, break refreshments, and reception.

Although it is not Division of Cardiovascular Diseases policy to limit the number of registrants for a course, conference room facilities may necessitate closing of enrollment; therefore, early registration is advised. Enrollment for this program is limited.

### For additional information, contact:

Cardiovascular Continuing Education  
200 First Street SW – Gonda 6-138  
Rochester, MN 55905

**E-mail:** [cvcme@mayo.edu](mailto:cvcme@mayo.edu)

**Phone:** 800-283-6296 or 507-266-6703

**Website:** *[celinks.mayo.edu/echomarch2016](http://celinks.mayo.edu/echomarch2016)*

### Cancellation Policy

If you cancel your participation in this course, your registration fee, less a \$75 administrative fee, will be refunded when written notification is received by Division of Cardiovascular Diseases before **Monday, February 22, 2016** (fax#: 507-266-7403).

**No refunds will be made on or after Monday, February 22, 2016.** Canceled registrations are non-transferable.

Division of Cardiovascular Diseases reserves the right to cancel or postpone any course due to unforeseen circumstances. In the unlikely event Division of Cardiovascular Diseases must cancel or postpone this course, Division of Cardiovascular Diseases will refund the registration fee, but is not responsible for any related costs, charges, or expenses to participants, including fees assessed by airline/travel/lodging agencies.

**MAYO CLINIC**  
200 First Street SW/GO6-138  
Rochester, MN 55905

Division of Cardiovascular Diseases

# The 23rd Annual Echocardiographic Workshop on 2-D and Doppler Echocardiography at Vail

*Pre-registration - March 6, 2016  
March 7-10, 2016*

Vail Marriott • Vail, Colorado

*If you already received a copy of this  
brochure, please give this brochure to  
an interested colleague.*



In Collaboration With:  
*The Ohio State University*



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