SKI THE SUMMIT@COPPER
Echo Imaging in Colorado

COPPER MOUNTAIN
COPPER MOUNTAIN, COLORADO
MARCH 1–5, 2020

17 AMA PRA CATEGORY 1 CREDITS™
17 ABIM MOC POINTS
Department of Cardiovascular Medicine
in Collaboration With The Ohio State University

27th Annual Ski the Summit@Copper: Echo Imaging in Colorado

March 1-5, 2020

Copper Mountain
0509 Copper Road
Copper Mountain, CO 80443

Program Directors:
Kyle W. Klarich, M.D. – Mayo Clinic
Thomas Ryan, M.D. – The Ohio State University
Martha Grogan, M.D. – Mayo Clinic

REGISTER ONLINE NOW!
cveducation.mayo.edu
COURSE DESCRIPTION

Ideally situated midway between Vail, Breckenridge, and Keystone, Copper Mountain is a family-friendly and more affordable option for a great week of skiing – along with the same outstanding and clinically focused faculty.

This program will provide a comprehensive review of state-of-the-art 2-D, 3-D, M-Mode, 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, for cardiomyopathy and planning, preforming and following interventions. The role of echo relative to the newer imaging modalities will be discussed. There are also afternoon workshops on heart failure, hemodynamics, cardiomyopathy, and stress echo with a 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 and to assessing hemodynamics including valvular heart disease, heart failure, cardiomyopathies and the utility of newer techniques of strain imaging and 3-Dimensional imaging and their role in the modern echo practice
- Apply stress testing combined with the use of cardiac ultrasound
- Utilize echocardiography to determine which patients should be referred for interventions, or surgery versus medical therapy for the treatment of cardiovascular disease and identify the critical role that echo plays in structural heart disease and interventional procedures
- Identify the clinical and echocardiographic assessment for common congenital heart diseases
- Discuss the management of the pregnant patient

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.
ACCREDITATION STATEMENT

In support of improving patient care, Mayo Clinic College of Medicine and Science is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

Mayo Clinic College of Medicine and Science designates this live activity for a maximum of 17 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, which includes participation in the evaluation component, enables the participant to earn up to 17 Medical Knowledge MOC points in the American Board of Internal Medicine’s (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Participation information will be shared with ABIM through PARS.

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 1-5, 2020 (Pre-registration March 1 from 5:00-6:00 p.m.). Course headquarters will be located in Copper Conference Center (upper level), 0184 Copper Circle, Copper Mountain, CO 80443.

TRAVEL

Located just 75 miles west of Denver, CO in the heart of the Rocky Mountains, Copper Mountain Resort is an ideal vacation destination with a laid-back and inclusive vibe that represents the best of Colorado. Three pedestrian-friendly village areas provide a vibrant atmosphere with lodging, retail outlets, restaurants, bars and family activities. During the winter months, Copper’s naturally divided terrain offers world class skiing and riding for all ages and abilities. Copper Mountain is part of the POWDR Adventure Lifestyle Co, portfolio. At POWDR, we believe there is nothing better for your soul than to spend time with the people you love, doing the things you love.

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

Special discounted shared transportation through EPIC Mountain (shared transportation) has been arranged for a rate of $62.00 from Denver Airport. To make your reservation, please call 800-525-6363 and ask for the special ECHO rate or book on-line at: https://www.epicmountainexpress.com/group_redirect?code=ECHO20

DISCOUNTED LIFT TICKETS/RENTALS/LESSONS

Discounted lift tickets at a rate of $68/day can be purchased in advance by dialing 866-837-2996 and referencing the group code-G4393 Mayo Clinic. Attendees can also book lessons and ski/snowboard rentals in advance at a discounted rate. These group rates are only offered when booked at least 24 hours in advance. If these discounted products are not booked in advance then they must be purchased at the retail rate. Further information can be found on our website.

Season Pass-Secret Pass Access
For the 19/20 season Copper has a new add on product called the Premier Pass. This allows access to the Secret Pass line at the Eagle, Flyer, Super Bee, Excelerator, Timberline, and Union Creek Quad. A huge perk is the 30 minute early access to the American Eagle lift.

Once a guest has purchased their season pass they can add on the premier pass for an additional $399. Here is a link to the season pass section of their website: https://www.coppercolorado.com/plan-your-trip/season-passes/all-winter-season-passes-2019

Day Ticket-Secret Pass Access
If you purchase day tickets at the $68 group rate you can purchase the secret pass access for an additional $59/day.

If they are adding the Premier Pass to an already purchased season pass you can do so online at the above link. If you are wanting to add the daily product to a lift ticket then it can be purchased over the phone at 866-837-2996.

LODGING ACCOMMODATIONS

To receive the group rates on lodging, guests must call the Group Reservation line at 866-837-2996 and reference the group code of 4393-Mayo Clinic. All condo rooms are available.

Guests will be charged an amount equal to one night’s lodging at the time of booking. The balance on the room reservation will be billed to the credit card number on file 30 days prior to check in. Full payment is required at time of booking for the reservations made inside of 30 days of arrival.

Cancellation Policy:
For individual attendees who cancel their lodging reservations, the following will be in effect:
- If canceled 30 days or more prior to arrival date, refund on the amount received will be made less 10%.
- If canceled less than 29 days prior to arrival date, the individual is subject to the full forfeiture of the reservation value.

<table>
<thead>
<tr>
<th>ROOM TYPE</th>
<th>Sunday-Thursday Nights</th>
<th>Friday-Saturday Nights</th>
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</thead>
<tbody>
<tr>
<td>Gold Hotel Style</td>
<td>$220</td>
<td>$255</td>
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<tr>
<td>Gold Studio Deluxe</td>
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<td>$276</td>
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<tr>
<td>Gold One Bedroom</td>
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<td>$350</td>
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<tr>
<td>Resort Level</td>
<td>One Bedroom Price</td>
<td>Two Bedroom Price</td>
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<tr>
<td>Gold One Bedroom</td>
<td>$296</td>
<td>$377</td>
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<tr>
<td>Gold Two Bedroom</td>
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<td>$520</td>
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<tr>
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<td>$710</td>
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<tr>
<td>Platinum One Bedroom</td>
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</tr>
<tr>
<td>Platinum Two Bedroom</td>
<td>$375</td>
<td>$565</td>
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The resort room blocks are scheduled to be held until **Saturday, February 8, 2020** but have been sold out before this date in the past.

For further information regarding the area and its attractions, please refer to: [https://www.coppercolorado.com/](https://www.coppercolorado.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
Kyle W. Klarich, M.D., FACC, FAHA, FASE
Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine; Vice-Chair for Clinical Practice, Department of Cardiovascular Medicine, 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

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

Faculty
William F. Armstrong, M.D., FACC, FASE
Franklin Johnston Collegiate Professor of Medicine, University of Michigan Health System, Ann Arbor, MI

John P. Bois, M.D.
Assistant Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine, Mayo Clinic, Rochester, MN

Panithaya Chareonthaitawee, M.D., FACC
Associate Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine; Director, Nuclear Imaging Laboratory; Chair for Education, Department of Cardiovascular Medicine, Mayo Clinic, Rochester, MN

Bradley (Brad) E. Dallavalle, RDCS
Clinical Sonographer, Cardiovascular Ultrasound Imaging and Hemodynamic Laboratory, Mayo Clinic, Rochester, MN

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

Regina (Gina) M. Harper, RDCS
Advanced Clinical Sonographer, Cardiovascular Ultrasound Imaging and Hemodynamic Laboratory, Mayo Clinic, Rochester, MN

Grace Lin, M.D., FACC
Associate Professor of Medicine, Mayo Clinic; Director, Heart Failure Clinic; Consultant, Department of Cardiovascular Medicine, Mayo Clinic, Rochester, MN

Rekha Mankad, M.D., FACC, FASE
Assistant Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine; Director, Patient Education and Medical Editor for Global Business Solutions; Director, Cardio-Rheum Clinic, Director, Women’s Heart Clinic, Mayo Clinic, Rochester, MN

Sunil V. Mankad, M.D., FACC, FCCP, FASE
Associate Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine; Associate Director, Cardiology Fellowship; Director, Transesophageal Laboratory, Mayo Clinic, Rochester, MN

**Fletcher A. Miller, Jr., M.D., FACC, FAHA, FASE**
Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine; Past Director, Cardiovascular Ultrasound Imaging and Hemodynamic Laboratory, Mayo Clinic, Rochester, MN

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

**Michael H. Picard, M.D., FACC, FAHA, FASE**
Professor, Harvard Medical School; Physician, Massachusetts General Hospital, Boston, MA; Editor in Chief, Journal of the American Society of Echocardiography

**James D. Thomas, M.D., FACC, 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**
Penske Foundation Professor of Clinical Medicine; Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine; Consultant, Section of Pediatric Cardiology, Mayo Clinic, Rochester, MN

**FACULTY DISCLOSURE**

As a provider accredited by ACCME, Mayo Clinic College of Medicine and Science (Mayo Clinic 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 the course materials so those participants in the activity may formulate their own judgments regarding the presentation.
PROGRAM

SUNDAY, MARCH 1, 2020

4:00 p.m.   Registration – Kokopelli’s Trail Foyer (near the Bighorn Ballroom)

(Pretest will be available online one-week prior to the course)

5:00-6:00 p.m.   Back to the Basics of M-mode and Doppler
Drs. Kyle W. Klarich and Rick A. Nishimura

MONDAY, MARCH 2, 2020

7:00 a.m.   Continental Breakfast

7:25 a.m.   Welcome and Introduction
Dr. Kyle W. Klarich

VALVULAR HEART DISEASE
Dr. Thomas Ryan, presiding

7:30-8:00 a.m.   3rd Annual George M. Gura Memorial Lectureship
The History of Echo
Dr. Fletcher A. Miller, Jr.

8:00-8:25 a.m.   Echo Assessment of the Stenotic Aortic Valve in the Era of TAVR
Dr. Sunil V. Mankad

8:25-8:50 a.m.   Echo Assessment of Mitral Regurgitation in the Era of MitraClip
Dr. Rekha Mankad

8:50-9:15 a.m.   Echo Assessment of Tricuspid Valve Regurgitation: How Important is TR and How to Intervene?
Dr. Michael H. Picard

9:15-9:30 a.m.   Questions and Answers
Drs. Miller, S. Mankad, R. Mankad and M. Picard; Dr. Ryan, moderator

WORKSHOPS

4:00-5:00 p.m.   Echo and the Case Base Approach to Clinical Decision Making in Complex Valvular Heart Disease
Drs. Rick Nishimura and Thomas Ryan

5:00 – 6:00 p.m.   Echo and Endocarditis – Clinical Decision Making
Drs. Martha Grogan and Kyle W. Klarich

6:00-7:00 p.m.   Welcome Reception in Ballroom Foyer
All Participants, Faculty, Exhibitors, and Guests Invited
TUESDAY, MARCH 3, 2020

7:00 a.m.  Continental Breakfast

LV FUNCTION AND HEART FAILURE
Dr. Kyle W. Klarich, presiding

7:30-7:55 a.m.  LV Systolic Functional Assessment - the Role of Echo Contrast Today and In the Future.
Dr. William F. Armstrong

7:55-8:20 a.m.  What Can We Say About Diastolic Functional Assessment in 2020? Can We Make A Clinical Decision Based on the Echo?
Dr. Rick A. Nishimura

8:20-8:45 a.m.  Strain Imaging-Ready for Prime Time? If so where does it fit into the busy echo lab.
Dr. James Thomas

8:45-9:10 a.m.  Thick Walls on the Echo – Hypertrophic Cardiomyopathy or Phenocopy
Dr. Kyle W. Klarich

9:10-9:35 a.m.  Amyloid Is the New Epidemic? What Every Cardiologist Needs to Know
Dr. Martha Grogan

WORKSHOPS
4:00-5:00 p.m.  Hemodynamic Workshop: A Case-Based Approach to Diastolic Function Analysis and Clinical Decisions
Drs. Rick A. Nishimura and Thomas Ryan

5:00-6:00 p.m.  Strain Workshop Live Demonstration: How to Do Strain and How to Interpret
Drs. Sunil V. Mankad, James D. Thomas, Jerry H. Greenberg and Ms. Regina (Gina) M. Harper
### ECHO VERSATILITY IN USUAL AND UNUSUAL SITUATIONS

**Dr. Sunil Mankad, presiding**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:30-7:55 a.m.</td>
<td>Cardio-Oncology: An Emerging Field in CV and the Role of Echocardiography in Patient Assessment and Management</td>
<td>Dr. Grace Lin</td>
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<tr>
<td>7:55-8:20 a.m.</td>
<td>Cardio-Rheumatology an Emerging Field – Where Echo Fits Into Clinical Assessment</td>
<td>Dr. Rekha Mankad</td>
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<td>8:20-8:45 a.m.</td>
<td>Intraoperative Imaging: Echo to the Rescue With Case-Based Examples</td>
<td>Dr. Sunil Mankad</td>
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<tr>
<td>8:45-9:10 a.m.</td>
<td>The Emerging Essential Role of Echo in Interventional Procedures</td>
<td>Dr. Michael H. Picard</td>
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<tr>
<td>9:10-9:30 a.m.</td>
<td>Questions and Answers</td>
<td>Drs. Lin, R. Mankad, and Picard; Dr. S. Mankad, moderator</td>
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### WORKSHOPS

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<tr>
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<tr>
<td>4:00-5:00 p.m.</td>
<td>Stress Echo Workshop</td>
<td>Drs. William Armstrong and Thomas Ryan</td>
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<tr>
<td>5:00-6:00 p.m.</td>
<td>Live Scanning – 3-D Imaging – How to Acquire and Interpret Images</td>
<td>Drs. Grace Lin, Jerry H. Greenberg, and Mr. Bradley E. Dallavalle</td>
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THURSDAY, MARCH 5, 2020

7:00 a.m.  Continental Breakfast

CHD AND OTHER TOPICS
Dr. Rick A. Nishimura, presiding

7:30-7:55 a.m.  Adult Congenital Heart Disease – What Every Cardiologist May See/Miss
Dr. Carole A. Warnes

7:55-8:20 a.m.  Multimodality Imaging: When Is This Needed Above and Beyond Echo
Dr. John P. Bois

8:20-8:45 a.m.  Hypertrophic Cardiomyopathy: Echocardiographic Assessment
Dr. Rick A. Nishimura

8:45-9:10 a.m.  The Pregnant Cardiac Patient: How Echo Helps in Management
Dr. Carole A. Warnes

9:10-9:35 a.m.  The Assessment of Cardiac Sarcoid, From Echo Suspicion to Confirmation
Dr. Panithaya Chareonthaitawee

WORKSHOP
4:00-5:00 p.m.  Cardiomyopathy Workshop
How to Come to the Diagnosis: A Case-Based Approach to AL and aTTR Amyloid, Sarcoid, and Other Cardiomyopathies
Drs. Grogan, Chareonthaitawee, Bois, and Klarich

5:00-6:00 p.m.  Post-Test
(Answers posted after the course)
Drs. Kyle W. Klarich, Thomas Ryan, and Rick A. Nishimura
Register online:
cveducation.mayo.edu

Prior to Monday, February 3:
Course Registration (MD, PhD, DO) $780.00
Course Registration (Fellows, Sonographers, RN) $580.00

After Monday, February 3:
Course Registration (MD, PhD, DO) $880.00
Course Registration (Fellows, Sonographers, RN) $680.00

Registration is only available online at: cveducation.mayo.edu

Mayo Clinic Department of Cardiovascular Medicine 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 Department of Cardiovascular Medicine 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
Phone: 800-283-6296 or 507-266-6703
Website: cveducation.mayo.edu

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 Department of Cardiovascular Medicine (CV CME) before Friday, February 17, 2020 (Email: cvcme@mayo.edu or Fax: 507-266-7403). No refunds will be made on or after Friday, February 17, 2020. Canceled registrations are non-transferable.

CV CME reserves the right to cancel or postpone any course due to unforeseen circumstances. In the unlikely event CV CME must cancel or postpone this course, CV CME 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.