Learning Objectives

This course will provide physicians and sonographers at all levels with practical knowledge and application of two-dimensional echo, color flow and spectral Doppler, transesophageal, 3D and stress echocardiographic techniques which can be utilized in current everyday practice as well as future in applications. At the end of the course, each participant should have improved skills in the use of echocardiographic techniques for the appropriate diagnosis and treatment of common cardiac conditions.

At the conclusion of this activity, participants should be able to:

• Apply the recommendations for the echocardiographic evaluation of left ventricle function to clinical practice.
• Explain the role of echo in the treatment of heart failure.
• Use strain imaging to assess cardiac function in various pathological states
• Explore updated methodology to assess diastolic function using the recently updated ASE guidelines
• Assess patients with valvular disorders using the new ACC/AHA guidelines for valvular heart disease
• Recognize different echocardiographic methods to assess Right Ventricular structure and function. Cite the strengths and weaknesses of these techniques including complementary technologies: CT and MRI.
• Discuss the clinical classification of pulmonary hypertension, its implications for the patient and how echo can help in assessing its severity and guide management of patients with the condition.
• Evaluate how 3D echo works and express limitations and potential applications as it relates to daily practice and patient management.
• Assess the uses of echo contrast agents (imaging enhancing agents) and how to incorporate the use of the agents into a busy echo lab.
• Review of varying disease states that can be evaluated with stress echo.
• Evaluate the role of echo in the diagnosis and treatment of patients with aortic stenosis.
• Recognize the pathology and the basics of echocardiographic assessment of patients with common congenital heart lesions
• Review the role of echo in surgical and percutaneous treatments of aortic stenosis and mitral regurgitation
• Review the role of echo in new percutaneous treatment of tricuspid regurgitation.
• Review the role of echo in guiding other percutaneous procedures such as left atrial appendage closure and alcohol septal ablations

The following aspects of echocardiography will be covered:

• 2D Echocardiography
• Spectral and Color Doppler
• Transesophageal Echocardiography
• 3D Echocardiography
• Stress Echocardiography
• Contrast Echocardiography
• Tissue Doppler, Strain/Strain Rate
• Common Congenital Heart Lesions

Program Description

Principles of echocardiography will be
reviewed and advances will be demonstrated through lectures and case studies. Participants will be exposed to all aspects of basic and advanced echocardiography. Daily sessions will be devoted to state of the art lectures on advances in echocardiography and specific application to the following states:

- Heart Failure
- Interventional Echocardiography
- Valvular Heart Disease
- Coronary Artery Disease
- Congenital Heart Disease
- Strain Imaging

The following aspects of echocardiography will be covered:

- 2D Echocardiography
- Spectral and Color Doppler
- Transesophageal Echocardiography
- 3D Echocardiography
- Stress Echocardiography
- Contrast Echocardiography
- Tissue Doppler, Strain/Strain Rate
- Common congenital heart disorders

Case studies will be interspersed throughout each of the lectures to emphasize the importance and clinical utility of each technique discussed. The case studies will emphasize different topics in echocardiography that are seen in daily practice.

**Target Audience**

This continuing medical education program is designed to meet the educational needs of cardiologists, cardiology fellows, anesthesiologists, surgeons, sonographers and nurses who have a need for echo expertise. A minimum of three months experience in echocardiography and knowledge of basic transesophageal anatomy and physiology of the heart is required.

**Conference Location**

Northwestern Memorial Hospital
Feinberg Conference Center
251 East Huron Street, 3rd Floor
Chicago, Illinois 60611

Directions and parking information are available at www.nm.org.

Discounted parking is available at the Huron-St. Clair garage, located at 222 East Huron Street or at the Erie-Ontario garage, located at 321 East Erie Street. Please see the registration table for parking validation.

**Hotel & Parking**

Hyatt Centric Chicago Magnificent Mile
633 North St Clair Street
Chicago, Illinois 60611

Rooms have been reserved at a reduced rate of $249 single/double, plus tax. Please contact the hotel at 888-591-1234 or https://aws.passkey.com/go/NWUnivSeptember and mention ECHO NORTHWESTERN to reserve your room. Reservations made after August 18, 2017, or after the room block has filled, are subject to availability at regular hotel rates.

**Accreditation Statement**

The Northwestern University Feinberg School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

**Credit Designation Statement**

The Northwestern University Feinberg School of Medicine designates this live activity for a maximum of 23.25 AMA PRA Category 1 Credit(s)™. Physicians should claim only credit commensurate with the extent of their participation in the activity.

**Special Needs**

The Feinberg School of Medicine fully intends to comply with the legal requirements of the Americans with Disabilities Act. If any participant of this conference is in need of accommodation please indicate those needs on the registration form or submit written requests to the Office of CME at least one month prior to the conference date.

**Additional Information**

Contact the Bluhm Cardiovascular Institute by phone: 312-926-6526, fax: 312-926-6295, or email: hmunn@nm.org or visit our website at: http://heart.nm.org
Faculty Disclosure

Northwestern University Feinberg School of Medicine requires course directors, speakers, instructors, planners and other individuals who are in position to control the content of this activity to disclose any relevant financial relationships. All identified potential conflicts of interest are thoroughly vetted by NUFSM for fair balance; scientific objectivity of studies mentioned in the materials or used as the basis for content, and appropriateness of patient care recommendations. The faculty disclosures will be indicated in the course syllabus.

**COURSE DIRECTORS**

Kameswari Maganti, MD, FASE  
Associate Professor of Medicine  
Northwestern University Feinberg School of Medicine

David J Mehlman, MD, FASE  
Associate Professor of Medicine  
Northwestern University Feinberg School of Medicine

Issam Mikati, MD, FASE  
Professor of Medicine—Cardiology and Radiology  
Associate Medical Director, Echocardiography Laboratory  
Northwestern University Feinberg School of Medicine

Vera H. Rigolin, MD, FASE  
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Medical Director, Echocardiography Laboratory  
Northwestern Feinberg School of Medicine  
American Society of Echocardiography

James Thomas, MD, FASE  
Professor of Medicine  
Director, Center for Heart Valve Disease  
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American Society of Echocardiography

**GUEST SPEAKERS**

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Director, Cardiac Pathology  
Advocate Hope Children's Hospital  
Advocate Children's Heart Institute  
Professor of Pathology  
Rush Medical College

Roberto M Lang, MD, FASE, FESC, FAHA, FRCP  
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Director, Noninvasive Cardiac Imaging Laboratories  
Section of Cardiology Heart & Vascular Center  
University of Chicago Medicine  
President, American Society of Echocardiography

Jae K Oh, MD, FASE  
Consultant, Department of CV Diseases  
Samsung Professor of CV Diseases  
Mayo Clinic, Rochester, MN

Thomas Ryan, MD, FASE  
John G. and Jeanne Bonnet McCoy Chair in Cardiovascular Medicine  
Director, Ohio State Heart and Vascular Center  
The Ohio State University Wexner Medical Center  
President, American Society of Echocardiography

**FACULTY SPEAKERS**

Waleed Ahmed, MD  
Medical Director, Cardiac Imaging  
Northwestern Medicine at Central Dupage Hospital

Nausheen Akhter, MD, FASE  
Associate Professor of Medicine  
Northwestern University Feinberg School of Medicine

Robert O Bonow, MD  
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Director, Center for Cardiovascular Innovation  
Northwestern University Feinberg School of Medicine

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Clinical Chief, Cardiology  
Medical Director, Bluhm Cardiovascular Institute  
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Professor of Medicine  
Northwestern University, Feinberg School of Medicine

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Cardiology and Medical Director, Glenview/Deerfield Outpatient Centers  
Northwestern Medicine

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Professor of Medicine and Pediatrics  
Director, Northwestern Heart Disease and Pregnancy Program  
Northwestern Adult Congenital Heart and Marfan Center  
Women's Cardiovascular Health of the Bluhm Cardiovascular Institute  
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Northwestern University Feinberg School of Medicine

Allison R. Zielinski, MD  
Health System Clinician  
Northwestern Medicine

**NORTHEASTERN MEDICINE HOSPITAL STAFF**

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Colleen Gillis, RDCS  
Tia Gordon, BS, RDCS  
Christine Greco, RDCS  
Madeline Jankowski, BS, RDCS  
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Inga Vaitenas, RCS, RCCS  
Dipa Vitha, MS, RDCS  
Robyn Witkov, BS, RDCS  
Bernadette Wodzinski, RDCS  
Jacqueline Zaldana, A.A RCS, RDCS
Saturday, September 16th, 2017

7:00-7:30 AM  Registration and Breakfast

SESSION I VALVULAR HEART DISEASE
Moderator: James Thomas, MD, FASE

8:00-8:20 AM  2D and 3D Anatomy of the Mitral Valve
Roberto Lang, MD, FASE

8:20-8:50 AM  What’s New in the Updated ASE Valve Regurgitation Guidelines
James Thomas, MD, FASE

8:50-9:15 AM  Percutaneous Options for Mitral Valve Disease
Mark Ricciardi, MD

9:15-9:45 AM  Imaging Guidance for Percutaneous Mitral Valve Procedures
Jyothy Puthumana, MD, FASE

10:15-10:45 AM  The Tricuspid Valve: Emerging Into the Spotlight
Roberto Lang, MD, FASE

10:45-12:00PM  Cases with Panel Discussion and Audience Q&A
Vera Rigolin, MD, FASE
Jyothy Puthumana, MD, FASE
Kameswari Maganti, MD, FASE
Madeline Jankowski, BS, RDCS
Panel: Andrei Churyla, MD, James Thomas, MD, FASE, Mark Ricciardi, MD, Roberto Lang, MD, FASE

Lunch and Exhibits

SESSION II VALVULAR HEART DISEASE CONTINUED
Moderator: Vera Rigolin, MD, FASE

1:00-1:20 PM  Current Management of Aortic Stenosis
Robert Bonow, MD

1:20-1:40 PM  I Have a Patient with Severe Aortic Stenosis-TAVR or SAVR?
Charles Davidson, MD

2:00-2:20 PM  Quantitation and Current Management of Aortic Regurgitation
Kameswari Maganti, MD, FASE

2:20-3:20 PM  Prosthetic Valve Show and Tell
David Mehlman, MD, FASE

3:20-3:50PM  Refreshment Break and Exhibits

SESSION III BREAKOUT WORKSHOPS

3:50-6:00 PM  1. Rapid Fire Learning Through Fascinating Cases
Northwestern Memorial Hospital and Northwestern University Feinberg School of Medicine Faculty and Staff

2. Echo Simulator
Jyothy Puthumana, MD, FASE Imaging Fellows

Sunday, September 17, 2017

7:30-8:00 AM  Registration and Breakfast

SESSION IV: HEART FAILURE
Moderator: Issam Mikati, MD, FASE

8:00-8:30 AM  Systolic Function: The Basics and Beyond
Thomas Ryan, MD, FASE

8:30-9:00 AM  Using the Updated ASE Guidelines for Diastolic Function Assessment
Jae Oh, MD, FASE

9:00 – 9:20 AM  How do I Incorporate Strain into my Lab?
Nausheen Akhter, MD, FASE
Brian Fey, BA, RDCS (AE/PE), ACS, FASE

9:20-10:00 AM  Pericardial Diseases from the Expert’s Point of View
Jae Oh, MD, FASE

10:00-10:30 Break

SESSION V: THE RIGHT VENTRICLE AND PULMONARY HYPERTENSION
Moderator: Kameswari Maganti, MD, FASE

10:30-11:00 AM  Anatomy and Function of the Right Ventricle Using Echo with Illustrative Cases
Jae Oh, MD, FASE

11:00-11:20AM  Echo Highlights in Pulmonary Hypertension
Issam Mikati, MD, FASE

11:20-11:40 AM  Multimodality Imaging in Pulmonary Hypertension
Ben Freed, MD, FASE
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<tr>
<th>Time</th>
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<th>Presenter(s)</th>
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<tr>
<td>11:40-12:00 PM</td>
<td>Case Presentations</td>
<td>Ben Freed, MD, FASE, Tia Gordon, BS, RDCS, Panel: Jae Oh, MD, FASE, Thomas Ryan, MD, FASE</td>
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<td>12:00-1:00 PM</td>
<td>Lunch &amp; Exhibits</td>
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<td>1:00-1:30 PM</td>
<td>SESSION VI: HEART FAILURE AND BEYOND</td>
<td>David Mehlman, MD, FASE</td>
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<td>1:00-1:30 PM LV Assist Devices Show and Tell</td>
<td>Duc Pham, MD, Josh Herborn, MD, Issam Mikati, MD, FASE</td>
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<td>1:30-1:50 PM Heart Failure with Preserved EF</td>
<td>Ben Freed, MD, FASE</td>
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<td>1:50-2:10 PM Fascinating Heart Failure Cases from the Cardiac Surgery Ward</td>
<td>Robert Silverberg, MD</td>
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<td>2:10-2:30 PM Echo in the Cancer World</td>
<td>Nausheen Akhter, MD, FASE</td>
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<td>2:30-3:15 PM Case presentations</td>
<td>Micah Eimer, MD, Waleed Ahmed, MD, Ed Wu, MD</td>
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<td>3:15-3:30 PM Break</td>
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<td>3:30-5:30 PM Break out sessions</td>
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<td>9:40-10:30 AM</td>
<td>9:40-10:30 AM What Must You Know About Repaired Congenital Heart Disease in Adults</td>
<td>Saroja Bharati, MD, Andy de Freitas, MD</td>
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<td>10:30-10:45 AM Break</td>
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<td>Patricia Vassallo, MD, FASE, Bonnie Kane, RDCS, FASE</td>
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<td>SESSION VIII: STRESS ECHO AND BEYOND</td>
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<td>1:00-1:30 PM Stress Echo Cases</td>
<td>Imaging Fellows, Asra Azizuddin, MSD, Robert Schultz, MD, RCS</td>
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<td>1:30-1:50 PM Hypertrophic Cardiomyopathy</td>
<td>Kameswari Maganti, MD, FASE</td>
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<td>1:50-2:10 PM Imaging of the Aorta</td>
<td>Patricia Vassallo, MD, FASE</td>
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<td>2:10-2:20 PM Echo in Structural Heart Disease (Perivalvular leak closure, LAA closure)</td>
<td>Jyothy Puthumana, MD, FASE</td>
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<td>2:20-2:40 PM Echo Evaluation of Athlete’s Heart: Challenges and Updates</td>
<td>Allison Zielinski, MD</td>
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<td>3:00-3:30 PM Audience Q&amp;A</td>
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<td>7:30-8:00 AM</td>
<td>SESSION VII: COMMON CONGENITAL HEART DISEASE DISORDERS YOU WILL LIKELY SEE IN YOUR PRACTICE</td>
<td>Andy de Freitas, MD</td>
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<td>9:00-9:20 AM Stenotic Lesions in Pregnancy</td>
<td>Marla Mendelson, MD</td>
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Registration Fees:
Physicians .......................................................... $675.00
ASE Physicians ...................................................... $540.00
Technologist ........................................................ $550.00
ASE Technologist .................................................... $440.00
Former NU Fellows .................................................. $450.00
Residents, Fellows & Nurses .......................................... $450.00

How to register:
Online: visit http://medicine.northwestern.edu/echonorthwestern
Or mail with check to: Northwestern University Feinberg School of Medicine
c/o Echo Northwestern
251 E. Huron, Suite 3-150
Chicago, IL 60611-3008
Phone: 312-926-7343

Please make your check payable to Northwestern University. On site registration will be accepted via CHECK ONLY, however, we strongly encourage you to register in advance.

Cancellation Policy
$50 shall be retained to cover administrative expenses should you cancel your registration for any reason. In order to refund the balance, we must receive WRITTEN notice of withdrawal by August 15, 2017. No refunds will be issued thereafter.

PLEASE TYPE OR PRINT

Last Name ____________________________________________________________  □ MD □ DO
□ PhD □ RN
First Name ____________________________________________________________

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City ____________________________ State ______ Zip Code______________________
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Email: _________________________________________________________________
(Your registration confirmation will be emailed)

Please indicate any special needs ____________________________________________

Please indicate any dietary needs: ____________________________________________