

# ASTE



**Final Program**

**JUNE 10-14**

Washington State Convention Center | Seattle, WA

Exhibits Saturday, June 11 - Monday, June 13

[asescientificsessions.org](http://asescientificsessions.org)

## INDICATIONS

Activated DEFINITY® (Perflutren Lipid Microsphere) Injectable Suspension is indicated for use in patients with suboptimal echocardiograms to opacify the left ventricular chamber and to improve the delineation of the left ventricular endocardial border.

## CONTRAINDICATIONS

Do not administer DEFINITY® to patients with known or suspected right-to-left, bi-directional or transient right-to-left cardiac shunts, by intra-arterial injection, or to patients with known hypersensitivity to perflutren.

## IMPORTANT SAFETY INFORMATION

### **WARNING: Serious Cardiopulmonary Reactions**

Serious cardiopulmonary reactions, including fatalities, have occurred uncommonly during or following perflutren-containing microsphere administration [See WARNINGS AND PRECAUTIONS (5.1)]. Most serious reactions occur within 30 minutes of administration.

- Assess all patients for the presence of any condition that precludes DEFINITY® administration [See CONTRAINDICATIONS (4)].
- Always have resuscitation equipment and trained personnel readily available.

In postmarketing use, rare but serious cardiopulmonary or anaphylactoid reactions have been reported during or shortly following perflutren-containing microsphere administration [See ADVERSE REACTIONS (6)]. The risk for these reactions may be increased among patients with unstable cardiopulmonary conditions [See Postmarketing Experience (6.2)]. It is not always possible to reliably establish a causal relationship to drug exposure due to the presence of underlying cardiopulmonary disease.



Visit us at  
Booth #109

- Fully synthetic formulation<sup>2</sup>
- Microbubble persistency<sup>3-5</sup>
- Several administration options<sup>2</sup>
- Proven safety profile<sup>2,6</sup>
- Proven diagnostic advantage<sup>4,1</sup>

People and images depicted are for illustrative purposes only.



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# The DEFINITY® Difference

A proven diagnostic advantage that optimizes outcomes, patient management, and cost-effectiveness<sup>1</sup>



- Impacts cardiac diagnosis<sup>1</sup>
- Avoids additional diagnostic procedures<sup>1</sup>
- Alters patient management decisions<sup>1</sup>
- Reduces resource utilization and per-patient expense<sup>1</sup>

More than 5.6 million  
echo studies have  
been performed  
with DEFINITY®<sup>7</sup>

Please see brief summary on the next page, including boxed **WARNING** regarding serious cardiopulmonary reactions.

REFERENCES: 1. Kurt M, et al. Impact on Contrast Echocardiography on Evaluation of Ventricular Function and Clinical Management in a Large Prospective Cohort. *J. Am. Coll. Cardiol.* 2009;53:802-810 2. DEFINITY® [package insert]. N. Billerica, MA: Lantheus Medical Imaging, Inc., 2013 3. Becher H, Burns PN. *Handbook of Contrast Echocardiography: Left Ventricular Function and Myocardial Perfusion*. Heidelberg, NY: Springer-Verlag; 2000:2-44 4. Kitzman DW, et al. Efficacy and Safety of the Novel Ultrasound Contrast Agent Perflutren (DEFINITY) in Patients with Suboptimal Baseline Left Ventricular Echocardiographic Images. *Am J Cardiol.* 2000;86:669-674 5. Sboros V, et al. Contrast Agent Stability: A Continuous B-Mode Imaging Approach. *Ultrasound in Med. & Biology.* 2001;27:1367-1377 6. Data on file, Lantheus Medical Imaging, Inc. 7. ©2015 DR/Decision Resources, LLC. All rights reserved. Reproduction, distribution, transmission or publication is prohibited. Reprinted with permission.

Visit  
[DEFINITYimaging.com](http://DEFINITYimaging.com)

**DEFINITY®**  
VIAL  
FOR (Perflutren Lipid Microsphere)  
INJECTABLE SUSPENSION



## BRIEF SUMMARY

Please see Full Prescribing Information available at [www.definityimaging.com](http://www.definityimaging.com) for additional information.

### WARNING: SERIOUS CARDIOPULMONARY REACTIONS

Serious cardiopulmonary reactions, including fatalities, have occurred uncommonly during or following perflutren-containing microsphere administration [See WARNINGS AND PRECAUTIONS]. Most serious reactions occur within 30 minutes of administration.

- Assess all patients for the presence of any condition that precludes DEFINITY<sup>®</sup> administration [See CONTRAINDICATIONS].
- Always have resuscitation equipment and trained personnel readily available.

## INDICATIONS AND USAGE

Activated DEFINITY<sup>®</sup> (Perflutren Lipid Microsphere) Injectable Suspension is indicated for use in patients with suboptimal echocardiograms to opacify the left ventricular chamber and to improve the delineation of the left ventricular endocardial border.

## CONTRAINDICATIONS

Do not administer DEFINITY<sup>®</sup> to patients with known or suspected:

- Right-to-left, bi-directional, or transient right-to-left cardiac shunts,
- Hypersensitivity to perflutren [see WARNINGS AND PRECAUTIONS].

Do not administer DEFINITY<sup>®</sup> by intra-arterial injection.

## WARNINGS AND PRECAUTIONS

### Serious Cardiopulmonary Reactions:

Serious cardiopulmonary reactions including fatalities have occurred uncommonly during or shortly following perflutren-containing microsphere administration, typically within 30 minutes of administration. The risk for these reactions may be increased among patients with unstable cardiopulmonary conditions (acute myocardial infarction, acute coronary artery syndromes, worsening or unstable congestive heart failure, or serious ventricular arrhythmias). Always have cardiopulmonary resuscitation personnel and equipment readily available prior to DEFINITY<sup>®</sup> administration and monitor all patients for acute reactions.

The reported reactions include: fatal cardiac or respiratory arrest, shock, syncope, symptomatic arrhythmias (atrial fibrillation, tachycardia, bradycardia, supraventricular tachycardia, ventricular fibrillation, ventricular tachycardia), hypertension, hypotension, dyspnea, hypoxia, chest pain, respiratory distress, stridor, wheezing, loss of consciousness, and convulsions [see ADVERSE REACTIONS].

### Anaphylactoid Reactions:

In postmarketing use, uncommon but serious anaphylactoid reactions were observed during or shortly following perflutren-containing microsphere administration including:

Shock, hypersensitivity, bronchospasm, throat tightness, angioedema, edema (pharyngeal, palatal, mouth, peripheral, localized), swelling (face, eye, lip, tongue, upper airway), facial hypoesthesia, rash, urticaria, pruritus, flushing, and erythema have occurred in patients with no prior exposure to perflutren-containing microsphere products [see ADVERSE REACTIONS].

### Systemic Embolization of DEFINITY<sup>®</sup> in Patients with Cardiac Shunts:

In patients with right-to-left, bi-directional, or transient right-to-left cardiac shunts phospholipid-encapsulated microspheres can bypass the pulmonary particle-filtering mechanisms and directly enter the arterial circulation resulting in microvascular occlusion and ischemia. In an animal study utilizing intra-arterial administration of activated DEFINITY<sup>®</sup>, microsphere trapping was seen in small arterioles <15 µm, especially at branch points and in capillaries at all doses tested, including doses directly applicable to those used in humans. An animal study utilizing intravenous administration did not result in arterial microvascular obstruction presumably because of filtering by the lungs. Do not administer DEFINITY<sup>®</sup> by intra-arterial injection [see CONTRAINDICATIONS].

### High Ultrasound Mechanical Index:

High ultrasound mechanical index values may cause microsphere cavitation or rupture and lead to ventricular arrhythmias. Additionally, end-systolic triggering with high mechanical indices has been reported to cause ventricular arrhythmias. The safety of activated DEFINITY<sup>®</sup> at mechanical indices greater than 0.8 has not been evaluated [see DOSAGE AND ADMINISTRATION]. The safety of activated DEFINITY<sup>®</sup>

with the use of end-systolic triggering has not been evaluated.

### QTc Prolongation:

ECG parameters for doses up to 10 microL/kg were monitored in 221 subjects at multiple time points from 1 hour to 72 hours after the first bolus injection. In the 221 subjects, QTc prolongations of >30 msec were noted in 64 (29%) subjects. Forty-six out of 64 subjects with QTc prolongations were further evaluated and 39% (18/46) showed associated cardiac rhythm changes. The effects of concomitant drugs were not studied.

## ADVERSE REACTIONS

### Clinical Trials Experience

A total of 1716 subjects were evaluated in pre-market clinical trials of activated DEFINITY<sup>®</sup>. In this group, 1063 (61.9%) were male and 653 (38.1%) were female, 1328 (77.4%) were White, 258 (15.0%) were Black, 74 (4.3%) were Hispanic, and 56 (3.3%) were classified as other racial or ethnic groups. The mean age was 56.1 years (range 18 to 93). Of these, 144 (8.4%) had at least one adverse reaction (Table 6.1). There were 26 serious adverse events and 15 (0.9%) subjects discontinued because of an adverse event.

### Deaths and Serious Adverse Events

Among the 1716 activated DEFINITY<sup>®</sup> patients, 19 (1.1%) suffered serious cardiopulmonary adverse events including eight deaths. The deaths occurred several days after activated DEFINITY<sup>®</sup> administration and appeared to be related to the course of underlying disease. Of the 11 other serious adverse events, which appeared within days of the drug administration (2-15 days), all appeared to be a progression underlying cardiac and non-cardiac disease. However, a role for DEFINITY<sup>®</sup> in the initiation or course of these adverse events cannot be ruled out.

### Discontinuations

There were 15 discontinuations reported with a mean age of 41.5 years. Nine of these patients were discontinued after the first injection. One patient experienced a hypersensitivity reaction with urticaria and pruritus and all the other patients experienced dizziness, chest pain, dyspnea or back pain. These adverse reactions appeared within minutes (1 – 15 min) of the drug administration and were of moderate intensity resolving usually without treatment within minutes or hours after onset.

For all adverse reactions, the overall incidence of adverse experiences was similar for the <65 year age group and the > 65 year age group, similar in males and in females, similar among all racial or ethnic groups, and similar for bolus and infusion dosing. Table 6.1 summarizes the most common adverse reactions.

**Table 6.1. New-Onset Adverse Reactions Occurring in ≥0.5% of All Activated DEFINITY<sup>®</sup>-Treated Subjects**

	All activated DEFINITY <sup>®</sup> (N=1716)	
Total Number of Adverse Reactions	269	
Total Number of Subjects with an Adverse Reaction	144	(8.4%)
Body system		
Preferred term	n	(%)
Application Site Disorders	11	(0.6)
Injection Site Reactions	11	(0.6)
Body as a Whole	41	(2.4)
Back/renal pain	20	(1.2)
Chest pain	13	(0.8)
Central and peripheral nervous system disorder	54	(3.1)
Headache	40	(2.3)
Dizziness	11	(0.6)
Gastrointestinal system	31	(1.8)
Nausea	17	(1.0)
Vascular (extracardiac) disorders	19	(1.1)
Flushing	19	(1.1)
N=Sample size 1716 subjects who received activated DEFINITY <sup>®</sup>		
n=Number of subjects reporting at least one Adverse Reaction		

Other adverse reactions that occurred in ≤0.5% of the activated DEFINITY<sup>®</sup>-dosed subjects were:

**Body as a Whole:** Fatigue, fever, hot flushes, pain, rigors, and syncope

**Cardiovascular:** Abnormal ECGs, bradycardia, tachycardia, palpitation, hypertension and hypotension

**Digestive:** Dyspepsia, dry mouth, tongue disorder, toothache, abdominal pain, diarrhea and vomiting

**Hematology:** Granulocytosis, leukocytosis, leukopenia, and eosinophilia

**Musculoskeletal:** Arthralgia

**Nervous System:** Leg cramps, hypertonia, vertigo and paresthesia

**Platelet, Bleeding, and Clotting:** Hematoma

**Respiratory:** Coughing, hypoxia, pharyngitis, rhinitis and dyspnea

**Special Senses:** Decreased hearing, conjunctivitis, abnormal vision and taste perversion

**Skin:** Pruritus, rash, erythematous rash, urticaria, increased sweating, and dry skin

**Urinary:** Albuminuria

### Postmarketing Experience

In a prospective, multicenter, open-label registry of 1053 patients receiving DEFINITY<sup>®</sup> in routine clinical practice, heart rate, respiratory rate, and pulse oximetry were monitored for 30 minutes after DEFINITY<sup>®</sup> administration. No deaths or serious adverse reactions were reported, suggesting that these reactions are unlikely to occur at a rate of more than 0.3% when DEFINITY<sup>®</sup> is used according to recommendations.

The following adverse reactions have been identified during the post-marketing use of perflutren-containing microsphere products. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

Fatal cardiopulmonary and anaphylactoid events and other serious but non-fatal adverse reactions were uncommonly reported. These events typically occurred within 30 minutes of DEFINITY<sup>®</sup> administration. These serious events may be increased among patients with unstable cardiopulmonary conditions (acute myocardial infarction, acute coronary artery syndromes, worsening or unstable congestive heart failure, or serious ventricular arrhythmias [see WARNINGS AND PRECAUTIONS]).

Reported reactions included:

### Cardiopulmonary

Fatal cardiac or respiratory arrest, shock, syncope, symptomatic arrhythmias (atrial fibrillation, tachycardia, bradycardia, supraventricular tachycardia, ventricular fibrillation, ventricular tachycardia), hypertension, hypotension, dyspnea, hypoxia, chest pain, respiratory distress, stridor, wheezing.

### Anaphylactoid

Anaphylactic/anaphylactoid reaction, anaphylactic shock, hypersensitivity, bronchospasm, throat tightness, angioedema, edema (pharyngeal, palatal, mouth, peripheral, localized), swelling (face, eye, lip, tongue, upper airway), facial hypoesthesia, rash, urticaria, pruritus, flushing, erythema.

### Neurologic

Coma, loss of consciousness, convulsion, seizure, transient ischemic attack, agitation, tremor, vision blurred, dizziness, headache, fatigue.

## OVERDOSAGE

The clinical consequences of overdosing with activated DEFINITY<sup>®</sup> are not known. Treatment of an overdose should be directed toward the support of all vital functions and prompt institution of symptomatic therapy [see CONTRAINDICATIONS and WARNINGS AND PRECAUTIONS].

## PATIENT COUNSELING INFORMATION

Patients receiving activated DEFINITY<sup>®</sup> should be instructed to inform their healthcare provider if they:

1. have a congenital heart defect, or recent worsening of heart or lung conditions [see CONTRAINDICATIONS and WARNINGS AND PRECAUTIONS],
2. have had prior reactions to DEFINITY<sup>®</sup> [see CONTRAINDICATIONS],
3. may be pregnant, are trying to become pregnant, or are nursing [see USE IN SPECIFIC POPULATIONS].

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For ordering, tel. toll free: 800-299-3431  
All Other Business: 800-362-2668  
(For Massachusetts and International, call 978-667-9531)



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YOURSELF AS

# Editor-in-Chief of JASE

*the Journal of the American Society of Echocardiography*



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The American Society of Echocardiography  
is accepting applications for the position of

## Editor-in-Chief of the JASE

for a term beginning January 1, 2018.

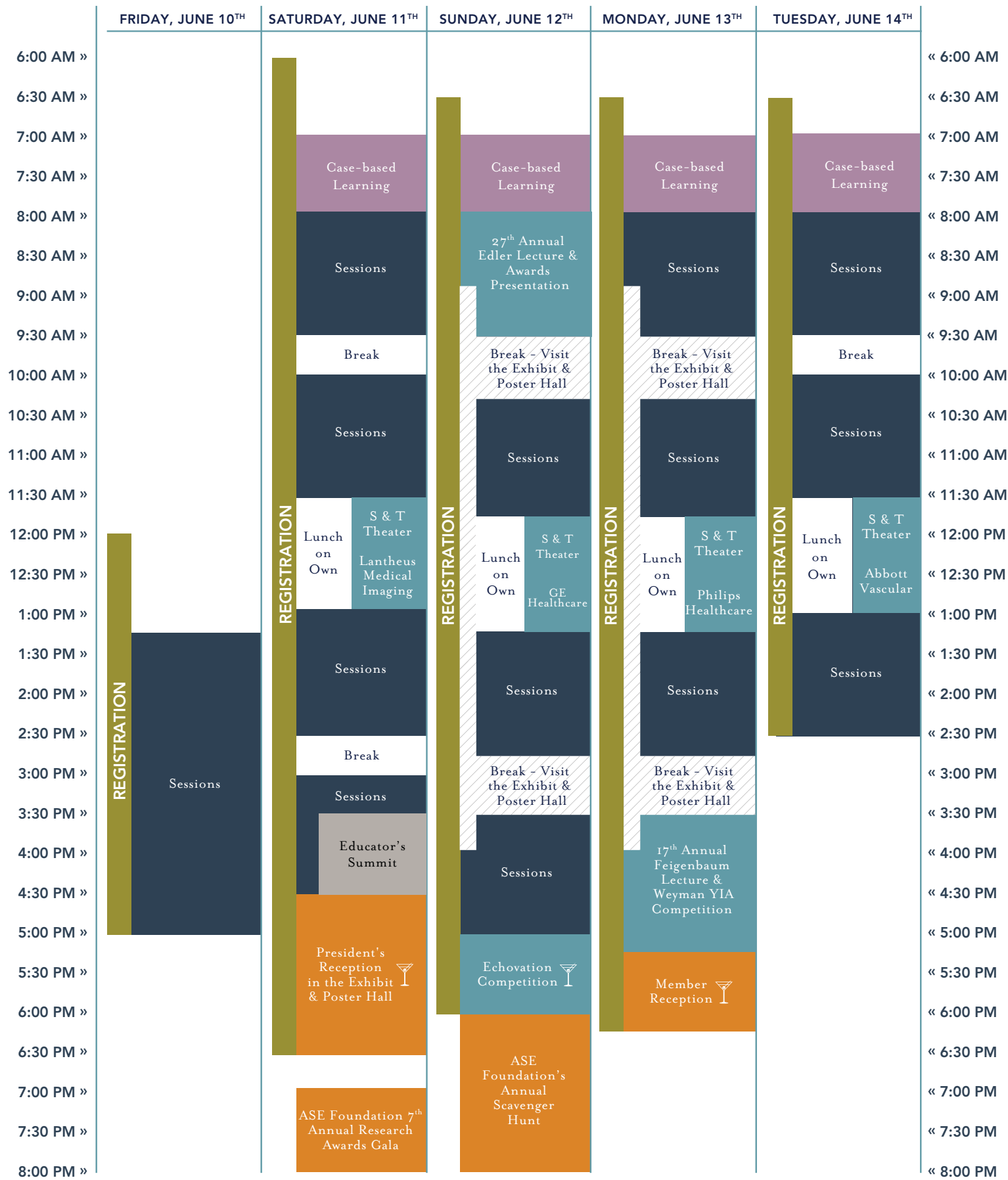
The *Journal of the American Society of Echocardiography* (JASE) – the official journal of the American Society of Echocardiography – brings physicians, sonographers, and researchers the very latest clinical, scientific, legal, and economic information regarding the use of cardiovascular ultrasound. JASE is published monthly, and its original, peer-reviewed articles cover conventional procedures as well as newer clinical techniques, such as transesophageal echocardiography, intraoperative echocardiography, and intravascular ultrasound. JASE has a 2014 Impact Factor of 4.056 and publishes papers from worldwide authors.



**Deadline for applications is July 1, 2016.** For details go to [ASEcho.org/Editor](http://ASEcho.org/Editor).

Direct questions to Deborah R. Meyer, JASE Managing Editor: 919-297-7155 • [dmeyer@asecho.org](mailto:dmeyer@asecho.org)

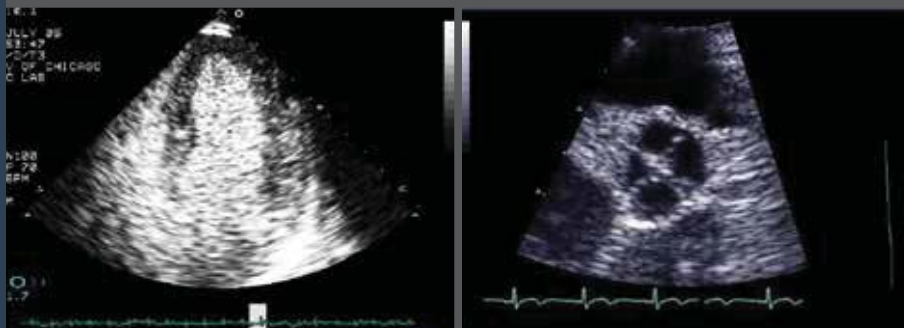
# Conference at a Glance





# State-of-the-Art ECHOCARDIOGRAPHY: ECHO SOUTHWEST

# 30<sup>th</sup> ANNUAL



## Main Course:

**February 18-21, 2017**

## Preconference Optional Sessions

February 17-18, 2017 (additional fee required)

**Hilton Tucson El Conquistador  
Golf & Tennis Resort, Tucson, AZ**

## Course Director

**Steven J. Lester, MD, FASE**

## Co-Director & Learning Lab Director

**Bijoy K. Khandheria, MD, FASE**

## Learning Lab Co-Director

**Roberto M. Lang, MD, FASE**

Register now at [ASEcho.org/SOTA](http://ASEcho.org/SOTA)



# Welcome Message

Dear Friends and Colleagues,

It is an honor to welcome you to the **27th Annual Scientific Sessions of the American Society of Echocardiography**.

The Scientific Sessions Program Committee has created an educational experience that is sure to spark the interest of all cardiovascular health professionals. We are guaranteed to be "Sleepless in Seattle" with all the creative learning opportunities featured this year.

To help you navigate this packed program, we wanted to highlight sessions of special note. ASE is proud to host two **Live Case Demonstrations** from the Cath Lab at the University of Washington on Monday. These sessions will highlight the critical role of echocardiography in structural heart interventions. Practitioners will be able to watch luminary faculty interact with interventional cardiologists and cardiovascular imagers in the cath lab during structural heart cases featuring percutaneous mitral valve repair, prosthetic valve dysfunction, or left atrial appendage occluder implants.

ASE's Immediate Past President, Neil J. Weissman, MD, FASE, will present "The Future of Echocardiography: Disrupter or Disrupted?" as the **27th Annual Edler Lecture** on Sunday morning. The inaugural **Echovation Challenge** competition will take place on Sunday afternoon where audience members and a panel of judges will watch and rate finalists showcasing their process and workflow innovations. Theodore P. Abraham, MBBS, MD, FASE, will deliver the **17th Annual Feigenbaum Lecture** "Echo Muscles into the Mechanics Era – Strain Transforms Morphologists into Physiologists" on Monday afternoon during the **Young Investigator's Award Competition**. Larry Sobal, MBA, Executive Vice President of Business Development for MedAxiom, will present the preliminary results of the first ever Echo Lab Benchmarking Research Study as the finale on Monday. Must see sessions on Tuesday include, Cases to Stump the Experts, Cardio-Oncology: At the Crossroads, The Great Debates, The Athlete's Heart, LVAD A to Z, and a special Echo in Veterinary Medicine symposium.

The **Exhibit & Poster Hall** provides additional unique learning opportunities. **Chalk Talks** will take place during morning and afternoon breaks on Sunday and Monday. Industry-supported **Science and Technology Theater** sessions, will be offered during all four lunch breaks. Nearly 50 exhibitors will be presenting new concepts, technology, devices, and research. Also, be sure to visit more than **400 posters** (including moderated sessions) featuring cutting-edge research on the latest advances in cardiovascular ultrasound or clinical cases illustrating evolutions in patient care will be presented.

Networking is always an important part of ASE's Scientific Sessions. The ASE Foundation will be holding its annual **Research and Awards Gala** and **Scavenger Hunt** again this year. ASEF also wants to encourage everyone to get moving, and start a little friendly competition among participants with the **Cardiovascular Challenge**. Log your steps at the ASEF Booth for a chance to win great prizes. The ASEF Booth will be busy during the **Member Reception** when **Roberto Canessa, MD, FASE**, will be signing copies of his latest book as a fundraiser for the Foundation. He will also be doing a special reading of his book on Saturday afternoon. Please visit the ASEF Booth outside the Exhibit & Poster Hall on Level 4 for more details.

Located in the heart of Seattle, we hope you will have the opportunity to get out and explore the city that is resonating with innovative minds and a vibrant arts scene. We are pleased that you have decided to join us for this premier event designed to bring together echo enthusiasts from around the world!



Richard A. Grimm,  
DO, FASE  
ASE 2016 Program Chair  
Cleveland Clinic  
Cleveland, Ohio



Deborah A. Agler,  
ACS, RDCS, FASE  
ASE 2016 Sonographer Co-Chair  
Cleveland Clinic  
Cleveland, Ohio

# Registration Information

## ATTENDEE REGISTRATION

The ASE Registration Counter is located in the Atrium Lobby outside the Exhibit & Poster Hall on Level 4 of the Washington State Convention Center. Attendees may pick up their conference materials and name badge at this location.

### REGISTRATION HOURS

Friday, June 10 ..... 12:00 PM – 5:00 PM

Saturday, June 11 ..... 6:00 AM – 6:30 PM

Sunday, June 12 ..... 6:30 AM – 6:00 PM

Monday, June 13 ..... 6:30 AM – 6:00 PM

Tuesday, June 14 ..... 6:30 AM – 2:30 PM

## NAME BADGES

Admission to the educational sessions, ASE Exhibit & Poster Hall, and Science & Technology Theater is by badge only. Please wear your name badge at all times when in the convention center. We recommend, for your safety, that you do not wear your name badge outside of the convention center. ASE exhibitors may use a lead retrieval system in the Exhibit & Poster Hall or Science & Technology Theater to obtain your information. Your name badge is used for lead retrieval and provides exhibitors with your name, institution (where applicable), address, business telephone number, and email address.

ASE will not release email addresses of attendees who declined the lead retrieval option on their registration form. Family members with guest badges will be admitted to the Exhibit & Poster Hall and may sit in on educational

sessions as space allows, but they are not eligible for a conference bag or to claim CME/MOC/CEU credit. Guests must be at least 12 years old. You may purchase guest badges for family members at the ASE Registration Counter. ASE reserves the right to revoke or deny attendance to any registered participant, speaker, exhibitor, news media reporter, or photographer at presentations or activities during the 27th Annual ASE Scientific Sessions.

## SPEAKER READY ROOM

The Speaker Ready Room is located in Room 604. Faculty name badges will be available at the ASE Registration Counter during registration hours.

The Speaker Ready Room, staffed with technicians to assist faculty with uploading and previewing presentations, is open during the following times:

Friday, June 10 ..... 12:00 PM – 5:00 PM

Saturday, June 11 ..... 6:00 AM – 4:30 PM

Sunday, June 12 ..... 6:30 AM – 4:30 PM

Monday, June 13 ..... 6:30 AM – 4:30 PM

Tuesday, June 14 ..... 6:30 AM – 1:00 PM



# Claiming Continuing Education Credit

To claim your CME credit for the 27th Annual ASE Scientific Sessions, please follow these steps using Mozilla Firefox, Google Chrome, or Safari browsers. **Internet Explorer will not work.**

**THE DEADLINE TO CLAIM CREDIT FOR THIS CONFERENCE IS JULY 29, 2016.**

- 1. ASE Members:** Go to ASEcho.org and log on to the Member Portal with your username (email) and password.
  - a. Click on **ASEUniversity and CME Credits** (This will take you directly to your ASEUniversity member profile).
- 2. Nonmembers:** Go to ASEUniversity.org and create a new account or log into your existing account.
- 3.** Once logged into ASEUniversity, the top of the page should say, "Hello,\_\_\_." Click **"Your Account."**
- 4.** Under "Your Account" click on **"Add Access Code,"** and enter the code **"ASE2016."**
- 5.** Verify your registration information. Be sure to use the same information that you used to register for the event.
- 6.** Once verified, click **"Take Evaluation"** to claim your CME credit. CME credits are not earned until the entire evaluation has been completed.
  - b. Remember to enter your ABIM number and birthdate if you choose to have MOC points for this meeting submitted to ABIM. There is a space for this indicated on the first page of the evaluation.
- 7.** Your certificate will be available for immediate download and can also be found under **"Your Account"** in the **"CE Transcript."**



## ASK QUESTIONS DURING SESSIONS

- 1.** Go to: ASEcho.cnf.io from your smart phone, laptop, or tablet.
- 2.** Find the session you are attending in the list or search by session name in the search box.
- 3.** On the green "Social Q & A" bar click the "ASK" button to ask a question any time during the session. Questions will be answered at the end of the session. All approved questions asked by the audience will appear on your device.
- 4.** You may click the arrow to the left of questions you like to "vote" the question up to the top of the list. The most popular questions will be answered first.

# Facility Information

The Washington State Convention Center's (WSCC) physical address is:

**750 PIKE PLACE  
SEATTLE, WA 98101**

Located in the heart of Seattle, a city resonating with innovative minds and a vibrant arts scene, WSCC is within walking distance of world-class hotels, restaurants, entertainment, and attractions. With a longstanding commitment to sustainability, public art, and modern technology, WSCC serves its surrounding community and provides visitors with a truly unique Northwest experience.

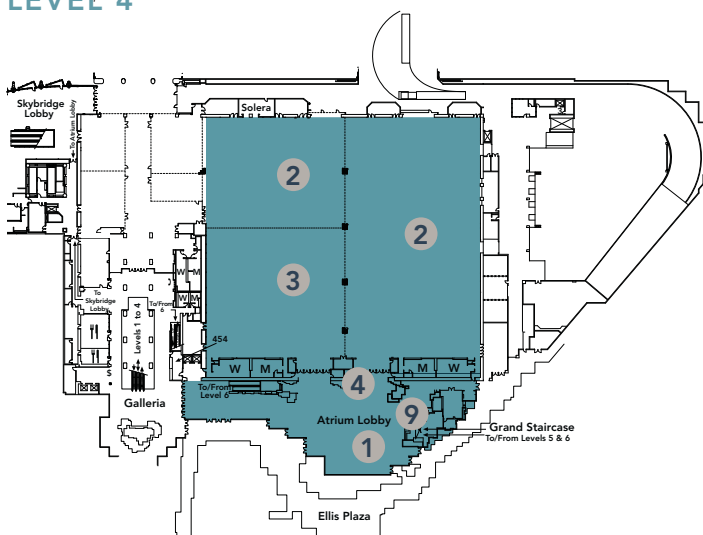
## FIRST AID

An emergency medical professional will be available during the hours of the ASE 2016 meeting, as well as during set-up and break down of the entire event. In the event of a medical emergency, please find a staff member or security guard to call the nurse on duty.

## LOST & FOUND

Questions regarding lost or found items can be directed to the ASE Registration Counter located in the Atrium Lobby outside the Exhibit & Poster Hall on Level 4 of the convention center.

## LEVEL 4



- |                                |                        |
|--------------------------------|------------------------|
| 1 Registration Counter         | 4 ASE Foundation Booth |
| 2 Exhibits & Posters           | 5 Session Rooms        |
| 3 Science & Technology Theater | 6 FASE Lounge          |
|                                | 7 Speaker Ready Room   |



## LUGGAGE STORAGE

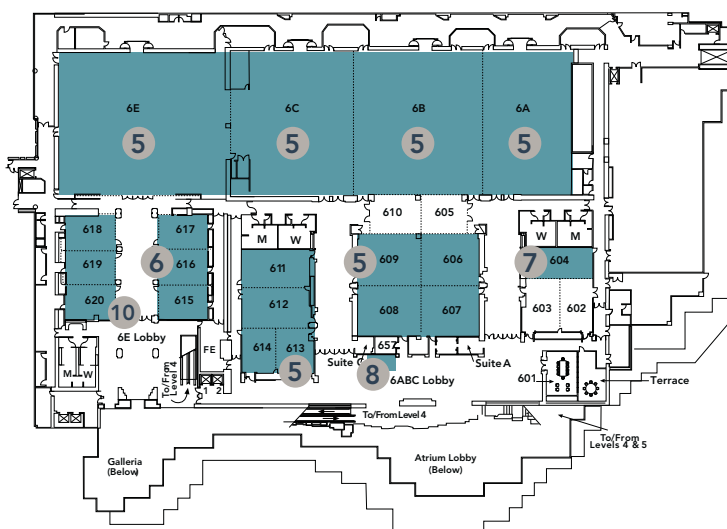
Luggage storage will be available at the WSCC in the Atrium Lobby on Level 4 near the ASE Registration Counter on Tuesday, June 14.

## BUSINESS CENTER

The WSCC features a full-service FedEx Office business center, located on Level 1, which offers you virtually everything you need to meet your convention needs — from packing and shipping to signage, copying, and last-minute office supplies.

The FedEx Office is open Monday – Friday – 7:00am to 10:00pm; Saturday – Sunday – 9:00am to 6:00pm.

## LEVEL 6



- |                   |
|-------------------|
| 8 Product Booth   |
| 9 Luggage Storage |
| 10 Learning Labs  |

**NOTE: ALL  
COMMITTEE  
MEETINGS ARE  
ON LEVEL 3.**

# Program Information & Regulations

## FOOD FUNCTIONS

ASE will provide continental breakfast in the Lobby on Level 6, from 6:30 – 7:30 AM daily. Morning and afternoon coffee breaks are available for registered attendees in the Exhibit & Poster Hall on Sunday, June 12 and Monday, June 13 and on Level 6, on Friday, June 10, Saturday, June 11, and Tuesday, June 14. Please refer to the Schedule at a Glance pages for the times of the daily morning, afternoon, and lunch breaks.

ASE will provide lunch on a first come, first served basis (max. 350 participants) for attendees of the Science & Technology Theater, located in the Exhibit & Poster Hall on Level 4. See page III of this program for a detailed theater schedule.

## INTERNET ACCESS

Complimentary Wi-Fi is available in the WSCC.

## MOBILE DEVICE USE

We encourage you to use your mobile device to access ASE's new online question and answer website ASEcho.cnf.io. After you have accessed the site and navigated to your session, you can ask questions of faculty or vote on your favorite question. Please remember to turn your mobile device to silent or vibrate mode.

## 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. ASE reserves the right to close session rooms as needed, without compensation to attendees. 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 in the convention center. Be sure to remove your badge when you leave the convention center.

## NEWS MEDIA

For information regarding news releases, news conferences, and interviews, please visit the ASE Registration Counter located outside the Exhibit & Poster Hall on Level 4 of the convention center. Copies of all news releases are also available under "News" on ASE's website ASEcho.org. Media representatives must display their official ASE badge at all times. Please see our Photography and Audio/Visual Recording policy.

## PHOTOGRAPHY AND AUDIO/VISUAL RECORDING POLICY

No person may record any portion of the ASE 2016 Scientific Sessions, either by video, still or digital photography, audio or any other recording or reproduction mechanism. Taking photos of or recording the content of meeting room slides or poster abstract presentations 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 conference badge and privileges. ASE reserves the rights to all recordings or reproductions at ASE meetings. Please be aware that during the Scientific Sessions, attendees, vendors, guests, and exhibitors may be photographed or videotaped by ASE contractors capturing the event. Some of these photographs or videos may be displayed by ASE in future publications or other materials. By virtue of your attendance, you agree to allow ASE to use photographs of you in its promotional materials.

## CHILDREN

Information about childcare is available at your hotel's concierge desk. ASE does not offer childcare services. Due to limited seating capacity and the highly technical nature of the program, children are not allowed to attend sessions. Children 12 and older must have a purchased guest registration before they will be allowed entry into the Exhibit & Poster Hall. Children 11 and younger, strollers, and infant carriers are not permitted on the exhibit floor at any time. For their safety, children must be accompanied by an adult at all times during the ASE 2016 Scientific Sessions.



# Education Information

## TARGET AUDIENCE

The ASE 27th Annual Scientific Sessions will benefit all healthcare providers interested in the application of cardiovascular ultrasound imaging in the care of patients and in research. ASE's membership is open to all echo enthusiasts, so this conference is designed to engage a diverse audience. Participants with a wide variety of interests and expertise in cardiovascular imaging will find sessions that meet their needs and help improve their practice. High quality lectures, debates, case-based presentations, and oral and poster research presentations offer a broad spectrum of educational opportunities in both large and small group settings. The curriculum is intended to enhance knowledge and performance for adult and pediatric cardiologists, cardiothoracic and vascular surgeons, cardiac anesthesiologists, cardiac sonographers, and emergency and critical care physicians, as well as hospitalists, radiologists, research scientists, primary care practitioners, residents and fellows in training, students, and nurses. Attendees are encouraged to interact with available faculty, and also to take advantage of the opportunity to gain new expertise.

## 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 the diagnosis and treatment options of a specific patient's condition.

## COMMERCIAL SUPPORT DISCLOSURE STATEMENT

### EDUCATIONAL GRANTS

This activity is supported in part by educational grants from: Abbott Vascular, Actelion, Boston Scientific, Edwards Lifesciences, GE Healthcare, Lantheus Medical Imaging, Medtronic and Thoratec.

### IN-KIND DONATIONS

This activity is supported in part by in-kind donations from: FUJIFILM SonoSite, Inc., GE Healthcare, Hitachi Aloka Medical America, Mindray North America, Philips, Siemens Healthineers, and TOMTEC IMAGING SYSTEMS GMBH.

## CONFERENCE OBJECTIVES

This program has been designed to allow attendees to access a broad overview of topics or delve deeply into one or two topics. In addition, particular care has been taken to incorporate ASE guidelines into talks to demonstrate how and why they should be applied in your daily practice.

**The goals of the conference are to provide:**

- » A comprehensive review of current equipment and state-of-the-art techniques in cardiac and vascular ultrasound for the assessment of patients with a variety of cardiovascular conditions.
- » An update of guidelines and recent advances in technology and research for the assessment of patients with cardiac and vascular disease.
- » A review of fundamental and advanced interpretation of cardiac and vascular ultrasound and the impact of echocardiographic imaging on patient care and outcomes.
- » Sessions that are appropriate for all levels of cardiac and vascular ultrasound professionals, including experts, intermediate learners, early career, fellows, and nurses.

**After participating in this activity, attendees will be better able to:**

- » Utilize cardiac and vascular ultrasound for the comprehensive assessment and management of cardiovascular diseases, including but not limited to: valvular heart disease, coronary artery disease, cardiomyopathies, pericardial disease, congenital heart disease, peripheral artery disease, and effects of systemic disease on the heart.



- » Incorporate new guideline recommendations into clinical practice.
- » Recognize the recent advancements and future direction of cardiac and vascular ultrasound and the impact these advancements may have on patient care.
- » Integrate the latest technical developments into clinical practice.
- » Employ cardiac ultrasound in pre-procedural, intraprocedural, and post-procedural care of patients in the operating room and catheterization laboratory.
- » Delineate how the new changes in the healthcare delivery system affect the private and hospital-based practice of cardiology and cardiovascular imaging.
- » Improve quality and workflow in the echocardiography lab through practice-improvement measures.

## ACCREDITATION AND DESIGNATION

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Society of Echocardiography and the American Society of Echocardiography Education and Research Foundation. The American Society of Echocardiography is accredited by the ACCME to provide continuing medical education for physicians.

The American Society of Echocardiography designates the ASE 27th Annual Scientific Sessions for a maximum of **29.5 AMA PRA Category 1 Credits™**. Attendees should claim only the credit commensurate with the extent of their participation in the activity.

### DAILY BREAKDOWN OF CME CREDITS

June 10, 2016 = 3.75  
 June 11, 2016 = 6.75  
 June 12, 2016 = 7  
 June 13, 2016 = 6.75  
 June 14, 2016 = 5.25

This activity is approved by the American College of Emergency Physicians for a maximum of 5.50 hour(s) of ACEP Category I credit.

Successful completion of this CME activity enables the participant to earn up to **29.5 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.

The National Board of Echocardiography™ (NBE) requires 15 hours of echocardiography-specific CME for both ReASCE® and RePTE® recertification. This activity contains 29.5 AMA PRA Category 1 Credits™ that can be used toward recertification requirements.

ARDMS, CCI, and 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 I 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.

## DISCLOSURE

ASE is committed to ensuring that its educational mission and all sponsored educational programs are not influenced by the special interests of any corporation or individual, and its mandate is to retain only those speakers whose financial interests can be effectively resolved to maintain the goals and educational integrity of the program. While a monetary or professional affiliation with a corporation does not necessarily influence a speaker's presentation, the Essential Areas and Policies of the ACCME require that any relationship that could possibly conflict with the educational value of the program be resolved prior to the educational session and disclosed to the audience. In accordance with these policies, ASE implemented mechanisms prior to the planning and implementation of this CME activity to identify and resolve conflicts of interest for all individuals in a position to control content. Disclosure information is referenced and can be found beginning on page 145 of this program.



# Scientific Program Tracks & Key

## CASE-BASED LEARNING

During these sessions, the practice of clinical echocardiography and its relationship to patient management will be highlighted and stressed by experts. These sessions will cover patient-centered care, time-efficiency and “difficult” patients, vascular disease in the cardiology patient, and quality improvement. Other topics covered include contrast for chamber opacification, echo emergencies, phenotypes, and artifacts. This will be an excellent learning opportunity facilitated by the presentation of pertinent clinical cases to set the stage for specific questions related to imaging and management.

## IMAGING ESSENTIALS

This track will instruct practitioners on techniques of assessment and quantitation. There are disease-based sessions that will help you improve your skills in chamber quantification and imaging a variety of disease states. In addition, there are practical sessions on workflow and quality that you can incorporate into your lab when you return home. Particular care has been taken to add more cases to each session to increase the impact of the lessons.

## PERIOPERATIVE

This track has been designed by the ASE Council on Perioperative Echocardiography to bring surgeons, anesthesiologists, echocardiographers, and sonographers together. In addition to the live imaging from the University of Washington on Monday, June 13, the Saturday track features sessions on echo for temporary and durable support and 3D in the operating room, LVAD's, and surgical considerations.

## SYMPOSIA

The 2016 Program Committee has designed the Symposia Track to move from more basic lectures on Saturday to an increasing focus on new technology, techniques, and science on the other days. Each symposium discusses a specific topic in detail and instructs you on how to apply state-of-the-art cardiovascular ultrasound techniques in clinical practice.

## PEDIATRIC/CONGENITAL

The ASE Council on Pediatric and Congenital Heart Disease has put together a program packed with cutting-edge science, imaging pearls, and hands-on instruction to benefit everyone, whether you are a pediatric echocardiographer or just learning more about the care of patients living with congenital heart diseases as adults. The popular staples of the track return: Pediatric Echo Jeopardy, Fireside Chat, case presentations, oral abstract sessions, and the always entertaining controversy debates. We will unveil the mysteries of some of the newer echo technologies, such as 3D printing, and see how expert care centers apply them in clinical practice.

## RESEARCH

Investigators will present the latest advances in cardiovascular ultrasound throughout the conference. Don't miss two special competitions designed to acknowledge exceptional research, the Sonographer Investigator's Award Competition and the prestigious Arthur E. Weyman Young Investigator's Award Competition, where the four best abstracts submitted compete in front of a panel of luminaries for international recognition. Meet the investigators during dedicated poster viewing times in the Exhibit & Poster Hall.

## VASCULAR

ASE's Council on Vascular Ultrasound has put together a rich program that will provide the attendee with an excellent overview on vascular ultrasound topics of interest to the practicing cardiologist/sonographer. Topics such as vascular disease in the cardiology patient and advanced vascular imaging will be covered. Additional state-of-the-art and cutting-edge technologies will also be presented in what promises to be an exciting track. You won't want to miss the special session “Interactive Vascular Learning Lab” on Friday, June 10.



# ASE 2016 Program Committee



**Richard A. Grimm,  
DO, FASE**

*Chair*



**Rebecca T. Hahn,  
MD, FASE**

*Past Chair*



**Susan E. Wiegers,  
MD, FASE**

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**Deborah A. Agler,  
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*Sonographer Co-Chair*



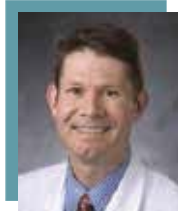
**Jayashri R. Aragam,  
MD, FASE**

*Member at Large*



**Gerard P.  
Aurigemma, MD,  
FASE**

*Member at Large*



**Piers C.A. Barker,  
MD, FASE**

*Council on Pediatric and  
Congenital Heart Disease  
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**Thomas Costantino,  
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**Rosario Freeman,  
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*Local Liaison*



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**Karen G.  
Zimmerman, BS,  
ACS, RDCS, RVT,  
FASE**

*Member at Large*



**ASE** Foundation

ANNUAL APPEAL

## Making a WORLD of Difference

***Your support means the world to us!*** Thank you for all the ways you continue to make a difference for the field of cardiovascular ultrasound.

-  **RESEARCH**
-  **RESEARCH INVESTIGATOR SUPPORT**
-  **TRAVEL GRANTS & SCHOLARSHIPS**
-  **PATIENT AWARENESS**
-  **GLOBAL HEALTH INITIATIVES & HUMANITARIAN EVENTS**
-  **DEMONSTRATING THE VALUE OF CARDIOVASCULAR ULTRASOUND**
-  **GUIDELINE TRANSLATIONS & GLOBAL DISSEMINATION**
-  **AREA OF GREATEST NEED**

*100% of every donation received goes back out into the field.*

### ***Join the ASE Foundation in Seattle at the Annual ASE Scientific Sessions***

Visit the Foundation booth located across from Registration to learn more.

#### **SATURDAY, JUNE 11**

- 9:30 AM - 5:00 PM **Sign up for the Cardiovascular Challenge!**  
**ASE Foundation booth**
- 2:30 PM - 3:00 PM **Special book reading by Roberto Canessa, MD, FASE**  
"I Had to Survive: How a Plane Crash in the Andes Inspired My Calling to Save Lives"  
**Science & Technology Theater**
- 7:00 PM - 11:00 PM **7th Annual ASE Foundation Research Awards Gala: Celebrating Twenty Years of Funding Cardiovascular Ultrasound Research**  
**The Grand Hyatt Hotel** Private event; tickets required

#### **SUNDAY, JUNE 12**

- 1:15 PM - 2:45 PM **ASE Foundation Global Initiatives: Humanitarian Missions in Argentina and Vietnam**  
**Ballroom 6A**
- 6:00 PM - 10:00 PM **ASE Foundation Scavenger Hunt & After-Party**  
**Start: ASE Registration Desk | End: Capitol Cider** Private event; tickets required

#### **MONDAY, JUNE 13**

- 12:00 PM **Last chance to log your steps for the Cardiovascular Challenge!**  
Winners to be announced during the 2:45 PM – 3:30 PM break in the Exhibit & Poster Hall.  
**ASE Foundation booth**
- 5:15 PM - 6:15 PM **Special Book Signing by Roberto Canessa, MD, FASE during the Member Reception**  
**ASE Foundation booth**







[ASEFoundation.org](http://ASEFoundation.org)

As a 501(c)(3) organization, contributions made to the ASE Foundation are U.S. tax deductible to the fullest extent of law.

# Schedule at a Glance

FRIDAY, JUNE 10<sup>TH</sup>

REGISTRATION OPEN: 12:00 - 5:00 PM (*Exhibit & Poster Hall Closed*)

ROOM	BALLROOM 6C	ROOM 609
1:15 – 2:45 PM	 <b>I ♥ Echo</b> <i>(Additional Fee Required)</i>	  <b>Interactive Vascular Lab</b>
3:30 – 5:00 PM	 <b>I ♥ Echo</b> <i>(Additional Fee Required)</i>	  <b>Interactive Vascular Lab</b>





**January 23-27, 2017**  
Hapuna Beach Prince Hotel  
Kohala Coast, Big Island, HI



**Course Director**  
Thomas J. Ryan, MD, FASE  
Past President, ASE



**Co-Director**  
Neil J. Weissman, MD, FASE  
Immediate Past President, ASE

“Wonderful conference with outstanding faculty presenters. Overall, the talks were clinically applicable and will help me improve the way I practice echocardiography.” Echo Hawaii Attendee

[ASEcho.org/EchoHawaii](http://ASEcho.org/EchoHawaii)



**ASE** American Society of Echocardiography



**ASE** Foundation



Canadian Society of Echocardiography

Jointly provided by the American Society of Echocardiography and the American Society of Echocardiography Education and Research Foundation, and held in cooperation with the Canadian Society of Echocardiography.





# Congratulations Dr. Sunil Mankad!

ASE 2016 Richard Popp Excellence in Teaching Award Recipient

Associate Program Director, Cardiovascular Disease Fellowship Program / Director, Transesophageal Echocardiography





**1:00 PM - 5:00 PM**

**Learning Lab: 3D Echo of Congenital Heart Disease: Image Acquisition, Optimization - Room 620** (Additional Fee Required)

*Chairs: D. Roberson, J. Simpson*

**1:00 PM - 1:20 PM**

Left Atrioventricular Valve

*J. Simpson*

**1:20 PM - 1:40 PM**

Atrial Septal Defect

*D. Roberson*

**1:40 PM - 2:00 PM**

Ventricular Septal Defect

*J. Simpson*

**2:00 PM - 2:20 PM**

LVOT/AoV

*G. Marx*

**2:25 PM - 2:35 PM**

3D Quantification

*J. Simpson*

**2:35 PM - 3:00 PM**

Volumetrics

*G. Marx, G. Shirali*

**3:05 PM - 4:00 PM**

Demonstration of Cropping Modalities & Controls

*G. Shirali*

**4:00 PM - 4:50 PM**

Crop Data Sets

*G. Marx, D. Roberson, G. Shirali, J. Simpson*

**1:15 PM - 2:45 PM**

**V Interactive Vascular Lab Part 1 - Room 609**

*Chairs: R. Benenstein, A. Johri*

**1:00 PM - 2:45 PM**

Carotid Duplex Ultrasound

*J. Ahn, B. Fowler, A. Liu, S. Robison*

**1:15 PM - 5:00 PM**

**E I ♥ Echo - Ballroom 6C** (Additional Fee Required)

*Chairs: T. Costantino, R. Hoppmann*

Lung Ultrasound - B lines

*A. Morris*

Exit - Aortic Outflow, Abdominal Aorta

*H. Goett*

FAST - Abdominal Orientation of Subcostal

*B. Backlund*

POCUS Intro

*H. Goett*

Effusions - (Sx/A4ch)

*J. Fields*

Ejection Fraction - Global Function (PSLA/PSSA)

*M. Mulflur*

Starting an Ultrasound Program for Medical Students

*R. Hoppmann*

Entrance - IVC Empty or Full

*R. Gibbons*

VTE - DVT PE

*S. Shah*

**3:30 PM - 5:00 PM**

**V Interactive Vascular Lab Part 2 - Room 609**

*Chairs: R. Benenstein, A. Johri*

**3:30 PM - 5:00 PM**

Carotid Intima-Media Thickness and Plaque

*J. Ahn, A. Liu, B. Fowler, S. Robison*



Register by 30 September

Leipzig – Germany

7-10 December 2016

# EuroEcho Imaging 2016

EDITION

20<sup>th</sup> Annual Meeting of the European Association of Cardiovascular Imaging, a registered branch of the ESC,  
in cooperation with the German Working Group of Echocardiography.

## Important Deadlines

Clinical case submission **18 May 2016**

Abstract submission **31 May 2016**

Early registration **30 September 2016**

Late registration **31 October 2016**


#EuroEcho

[www.escardio.org/EACVI](http://www.escardio.org/EACVI)



# Schedule at a Glance

**SATURDAY, JUNE 11<sup>TH</sup>**

REGISTRATION OPEN: 6:00 AM - 6:30 PM						
EXHIBIT & POSTER HALL OPEN: 4:30 - 6:30 PM						
ROOM	BALLROOM 6A	BALLROOM 6B	BALLROOM 6C	BALLROOM 6E	ROOM 609	ROOM 613
7:00 - 7:50 AM	<b>CL</b> Why Is My Patient Short of Breath? Breathless or Sleepless in Seattle	<b>CL</b> Contrast for Chamber Opacification	<b>CL</b> Echo Emergencies	<b>CL</b> Mitral Regurgitation: Repair or Replace	<b>E</b> The Right Direction: Quality Improvement	<b>CL</b> Measure It!
8:00 - 9:30 AM	<b>S</b> Strain Fundamentals Made Easy	<b>S</b> Frontiers in Cardiac Ultrasound	<b>PC</b> Pathology I Echo Correlation: Double Inlet Left Ventricle	<b>P</b> Echo for Durable Mechanical Circulatory Support	<b>E</b> It's All About ASE	<b>S R</b> Taking an Idea from Lab to Clinical Fruition
9:30 - 10:00 AM	REFRESHMENT BREAK					
10:00 - 11:30 AM	<b>S</b> Hiding in Plain Sight: Echo in Systemic Disease	<b>S</b> Guidelines in Action: 3 Cases, 3 Key Points	<b>PC</b> Pathology II Echo Correlation: Ventricular Non-compaction	<b>P</b> Echo for Temporary Mechanical Circulatory Support	<b>E CL</b> Sizing It Up: Getting it Done Right	<b>S R</b> Echocardiography in Clinical Trials as Applied to Practice
11:30 AM - 1:00 PM	SCIENCE & TECHNOLOGY THEATER: LANTHEUS MEDICAL IMAGING					
1:00 - 2:30 PM	<b>S</b> The Assessment of Aortic Stenosis: Echo as the Gold Standard	<b>S</b> The Real World Echo Lab	<b>PC</b> Focus on Quality Assurance and Appropriate Use Criteria	<b>P</b> No 2D Allowed: 3D for the Operating Room	<b>E CL</b> Guidance from the Guidelines and Standards	<b>S</b> How to Assess Left Atrial Size and Function
2:30 - 3:00 PM	REFRESHMENT BREAK					
3:00 - 4:30 PM	<b>S</b> Right On! The Right Heart	<b>S</b> Contrast Perfusion	<b>PC</b> Pediatric Echo Jeopardy	<b>P</b> Hypertrophic Cardiomyopathy in the Operating Room	<b>E CL</b> When It Does Not Make Sense: Putting the Pieces Together	<b>S</b> Is Focused Echo Important? It's Critical!
3:30 - 4:30 PM	EDUCATOR'S SUMMIT - ROOM 303					
4:30 - 6:30 PM	PRESIDENT'S RECEPTION IN THE EXHIBIT & POSTER HALL 					
7:00 - 11:00 PM	ASE FOUNDATION 7 <sup>TH</sup> ANNUAL RESEARCH AWARDS GALA <i>This event requires a separate registration. Proceeds benefit the ASE Foundation's charitable activities.</i>					

# Saturday, June 11<sup>th</sup> Networking Opportunities and Special Events

## 2016 KALMANSON LECTURE

8:00 – 9:30 AM

### Ballroom 6B



The ASE Foundation is honored to recognize Peter N. Burns, PhD, Professor and Chairman of Medical Biophysics at the University of Toronto and Senior Scientist at Sunnybrook Research Institute, from Toronto, ON, Canada as the 2016 Kalmanson Lecturer. Established in memory of Professor Daniel

Kalmanson, a pioneer in the use of Doppler echocardiography, and funded through a grant from the International Cardiac Doppler Society (ICDS), this annual lectureship provides a forum for honoring worthy investigators while promoting research and education in cardiovascular Doppler ultrasound. Professor Burns will present his lecture entitled “New Doppler Techniques for Cardiac Contrast” during the Frontiers in Cardiac Ultrasound symposium.

## DR. ROBERTO CANESSA, MD, FASE SPECIAL BOOK READING

2:30 – 3:00 PM

### Science and Technology Theater

Join Roberto Canessa, MD, FASE, as he reads excerpts from his latest book, *I Had to Survive: How a Plane Crash in the Andes Inspired My Calling to Save Lives*. Dr. Canessa, a pediatric cardiologist from Montevideo, Uruguay, was recognized as a hero in the famous 1972 Andes plane crash that was documented in the best seller *Alive* by Piers Paul Reed and the 2008 award-winning documentary “Stranded: I’ve Come from a Plane That Crashed on the Mountains.” There are a very limited number of copies of his signed book available for a donation to the ASE Foundation. Please visit the ASEF booth outside the Exhibit & Poster Hall on Level 4 for more information.

## EDUCATOR’S SUMMIT

3:30 – 4:30 PM

### Room 303

Join in on a round-table discussion for educators teaching cardiovascular ultrasound. Discussion includes international cardiovascular ultrasound education practices, development of international advanced

cardiovascular sonographer programs, educational needs in different geographical locations, and the use of social media for reaching students in different geographical locations. Attendees will receive information regarding ASE’s educator resources for use in educational programs.

## PRESIDENT’S RECEPTION

4:30 – 6:30 PM

### Exhibit & Poster Hall

All attendees are invited to celebrate ASE 2016 at the President’s Reception, hosted by ASE President, Susan Wiegiers, MD, FASE. This is an opportunity to network with colleagues and friends while learning more about the newest equipment and services in the cardiovascular field. Nearly 50 exhibitors will be showcasing their products. Complimentary hors d’oeuvres and cocktails will be available at many stations throughout the hall. Admission is included in your registration fee, and guest tickets can be purchased during the registration process.

## ASE FOUNDATION 7<sup>TH</sup> ANNUAL RESEARCH AWARDS GALA

7:00 – 11:00 PM

### The Grand Hyatt Hotel Seattle, WA

The premier annual fundraiser for the ASE Education and Research Foundation is the 7th Annual Research Awards Gala in Seattle. The evening will celebrate the accomplishments of awardees and the dynamic field of cardiovascular ultrasound commemorating “20 Years of Funding Cardiovascular Ultrasound Research.” Event proceeds support research activities that advance the progress and future of our field. Pre-purchased tickets are required; tickets are not sold onsite. For more information, visit the ASE Foundation booth, located outside the Exhibit & Poster Hall.

## PHOTO EXHIBITION

### ASEF Booth, Level 4

A special juried showcase of photographs will be on display throughout the meeting. View the world through the eyes, and photos, of ASE members taken while they traveled across the world to participate in various medically-related humanitarian events.



7:00 AM - 7:50 AM

**CL** Why is My Patient Short of Breath? Breathless or Sleepless in Seattle - Ballroom 6A

Chairs: T. Costantino, A. Morris

7:00 AM - 7:15 AM

Bronchial or Cardiac Asthma?

T. Costantino

7:15 AM - 7:30 AM

Low Ejection Fraction with Normal Filling Pressure

Y. Han

7:30 AM - 7:45 AM

Acute Pulmonary Embolism

J. Fields

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**CL** Contrast for Chamber Opacification - Ballroom 6B

Chairs: H. Leong-Poi, S. Mulvagh

7:00 AM - 7:15 AM

Why Don't We Just Give It To Everyone? Don't Burst My Bubbles

P. Patil

7:15 AM - 7:30 AM

Optimizing Lab Operations for Success

J. Olson

7:30 AM - 7:45 AM

Maximizing Contrast Utilization for Stress Echo

S. Mulvagh

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**CL** Echo Emergencies - Ballroom 6C

Chairs: M. Cohen, M. Puchalski

7:00 AM - 7:15 AM

Acute Coronary Syndromes

M. Wasserman

7:15 AM - 7:30 AM

Endocarditis

A. Schultz

7:30 AM - 7:45 AM

Aortic Dissection

R. Garg

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**CL** Mitral Regurgitation: Repair or Replace - Ballroom 6E

Chairs: D. Shook, B. Taylor

7:00 AM - 7:15 AM

Basic Case: Pre-op Echo Predictors

K. Zimmerman

7:15 AM - 7:30 AM

Complex Case: Additional Information from Intraoperative TEE

A. Finley

7:30 AM - 7:45 AM

Impossible Case: When to Throw in the Towel

N. Skubas

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**E** The Right Direction: Quality Improvement - Room 609

Chairs: M. Bierig, M. Roberts

7:00 AM - 7:15 AM

Lab Accreditation: What Has Changed

B. Gorman

7:15 AM - 7:30 AM

Sonographers Role in Quality Assurance

A. Dillenbeck

7:30 AM - 7:45 AM

Structure and Analytics for the Quality Assurance Process

N. Greenberg

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**CL** Measure It! - Room 613

Chairs: S. Costa, J. Song

7:00 AM - 7:15 AM

Low Gradient Aortic Stenosis

J. Passeri

7:15 AM - 7:30 AM

Quantifying Mitral Regurgitation

E. Krieger

7:30 AM - 7:45 AM

Prosthetic Aortic Stenosis

R. Rasalingam

7:45 AM - 7:50 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **S** Strain Fundamentals Made Easy - Ballroom 6A

*Chairs: T. Edvardsen, V. Amuthan*

#### 8:00 AM - 8:15 AM

What is Strain? What Does It Measure?

*S. Lester*

#### 8:15 AM - 8:30 AM

Strain in Routine Clinical Lab: Knobology and Beyond

*T. Yingchoncharoen*

#### 8:30 AM - 8:45 AM

Common Scenarios Where Strain Gives Immediate Answers

*T. Marwick*

#### 8:45 AM - 9:00 AM

Strain Imaging: Common Errors and Artifacts

*Ž. Popovic*

#### 9:00 AM - 9:15 AM

The Future of Strain Imaging

*J. Thomas*

#### 9:15 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **S** Frontiers in Cardiac Ultrasound - Ballroom 6B

*Chairs: P. Burns, V. Mor-Avi*

#### 8:00 AM - 8:15 AM

Traditional Known Physical Limits of Cardiac Ultrasound Application

*M. Belohlavek*

#### 8:15 AM - 8:30 AM

Overcoming Limitations: Ultrafast Cardiac Ultrasound

*J. D'hooge*

#### 8:30 AM - 8:45 AM

Cardiac Elastography: Early Clinical Applications

*C. Pislaru*

#### 8:45 AM - 9:00 AM

Limits of Miniaturization

*B. Choi*

#### 9:00 AM - 9:15 AM

New Doppler Techniques for Cardiac Contrast (Kalmanson Lecture)

*P. Burns*

#### 9:15 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **PC** Pathology I Echo Correlation: Double Inlet Left Ventricle - Ballroom 6C

*Chairs: M. Lewin, L. Lopez*

#### 8:00 AM - 8:20 AM

Fetal to Postnatal Imaging

*J. Cnota*

#### 8:20 AM - 8:40 AM

Pathology

*S. Sanders*

#### 8:40 AM - 9:00 AM

Surgical Palliation

*J. Chen*

#### 9:00 AM - 9:20 AM

Long Term Outcome of Double Inlet Left Ventricle

*G. Lui*

#### 9:20 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **P** Echo for Durable Mechanical Circulatory Support - Ballroom 6E

*Chairs: F. Cobey, R. Sniecinski*

#### 8:00 AM - 8:10 AM

Council on Perioperative Echocardiography Business Meeting

*R. Sniecinski*

#### 8:10 AM - 8:25 AM

Predicting Right Ventricular Failure: 2D? 3D? Strain?

*J. Kirkpatrick*

#### 8:25 AM - 8:45 AM

Intraoperative TEE for LVADs

*K. Rehfeldt*

#### 8:45 AM - 9:00 AM

Surgical Options for Right Ventricular Dysfunction and Tricuspid Regurgitation in LVAD Patients

*N. Mokadam*

#### 9:00 AM - 9:15 AM

Ramping It Up: LVAD Assessment in the ICU

*J. Estep*

#### 9:15 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **E** It's All About ASE - Room 609

*Chairs: P. Knoll, E. McIlwain*

#### 8:00 AM - 8:15 AM

Council on Cardiovascular Sonography Business Meeting  
*C. Mitchell*

#### 8:15 AM - 8:30 AM

What Can ASE Do for You?  
*M. Park*

#### 8:30 AM - 8:45 AM

Career Pathways  
*C. Mitchell*

#### 8:45 AM - 9:00 AM

Making the Sessions Successful for You  
*S. Nay*

#### 9:00 AM - 9:15 AM

Humanitarian Efforts: ASE Around the World  
*D. Adams*

#### 9:15 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **S** **R** Taking an Idea from Lab to Clinical Fruition - Room 613

*Chairs: J. Lindner, R. Senior*

#### 8:00 AM - 8:20 AM

Bubble Engineering  
*E. Unger*

#### 8:20 AM - 8:40 AM

Animal Studies: Data Needed Before First-in-Man  
*H. Leong-Poi*

#### 8:40 AM - 8:50 AM

Human Trials: Phase I-III  
*J. Lindner*

#### 8:50 AM - 9:10 AM

Reimbursement for a New Technology:  
The CMS Perspective  
*R. Wright*

#### 9:10 AM - 9:30 AM

Question and Answer

## 10:00 AM - 11:30 AM

### **S** Hiding in Plain Sight: Echo in Systemic Disease - Ballroom 6A

*Chairs: S. Heinle, T. Zhu*

#### 10:00 AM - 10:15 AM

Amyloidosis + Fabry  
*V. Polani*

#### 10:15 AM - 10:30 AM

Sarcoidosis and Hemochromatosis  
*B. Tamarappoo*

#### 10:30 AM - 10:45 AM

Collagen Vascular Disease, Takayasu/Kawasaki  
*S. Kim*

#### 10:45 AM - 11:00 AM

Carcinoid Heart Disease  
*S. Shah*

#### 11:00 AM - 11:15 AM

Myocarditis  
*A. Rodrigues*

#### 11:15 AM - 11:30 AM

Question and Answer

## 10:00 AM - 11:30 AM

### **S** Guidelines in Action: 3 Cases, 3 Key Points - Ballroom 6B

*Chairs: J. Mangion, M. Saric*

#### 10:00 AM - 10:15 AM

Chamber Quantification  
*M. Quiñones*

#### 10:15 AM - 10:30 AM

Right Ventricular Function  
*L. Rudski*

#### 10:30 AM - 10:45 AM

PFO and Stroke  
*F. Chaudhry*

#### 10:45 AM - 11:00 AM

Valve Guidelines Update  
*B. Carabello*

#### 11:00 AM - 11:15 AM

Hypertension  
*T. Marwick*

#### 11:15 AM - 11:30 AM

Question and Answer

## 10:00 AM - 11:30 AM

**PC** Pathology II Echo Correlation: Ventricular Non-compaction With and Without Congenital Heart Disease - Ballroom 6C

Chairs: C. McMahon, J. Villafane

### 10:00 AM - 10:20 AM

Imaging Challenges in Diagnosis

B. Printz

### 10:20 AM - 10:40 AM

Pathology

S. Sanders

### 10:40 AM - 11:00 AM

Surgical Management of Heart Failure

R. Jaquiss

### 11:00 AM - 11:20 AM

Imaging in Patients on Mechanical Circulatory Support

T. Tacy

### 11:20 AM - 11:30 AM

Question and Answer

## 10:00 AM - 11:30 AM

**P** Echo for Temporary Mechanical Circulatory Support - Ballroom 6E

Chairs: A. Finley, M. Taylor

### 10:00 AM - 10:10 AM

Mechanical Circulatory Support for Post-Cardiotomy Shock: Guidelines and Options

R. Sniecinski

### 10:10 AM - 10:25 AM

Surgical Considerations for Failure to Wean from Cardiopulmonary Bypass

N. Mokadam

### 10:25 AM - 10:40 AM

Echocardiography for Percutaneous VAD's

M. Swaminathan

### 10:40 AM - 10:50 AM

Cases: Complications of Temporary VAD Support

S. Shillcutt

### 10:50 AM - 11:05 AM

Echo for Extracorporeal Membrane Oxygenation

A. Nicoara

### 11:05 AM - 11:20 AM

Is the Patient Ready for Weaning?

R. Stainback

### 11:20 AM - 11:30 AM

Question and Answer

## 10:00 AM - 11:30 AM

**E CL** Sizing It Up : Getting it Done Right - Room 609

Chairs: W. Armstrong, A. Venkateshwaran

### 10:00 AM - 10:15 AM

Left Ventricular Size and Volumes

E. McIlwain

### 10:15 AM - 10:30 AM

Left Atrial Size and Volumes

K. Horton

### 10:30 AM - 10:45 AM

Valvular Areas

B. Anderson

### 10:45 AM - 11:00 AM

Aorta Dimensions

P. Burgess

### 11:00 AM - 11:15 AM

Right Ventricular and Right Atrial Dimensions and Volumes

M. Park

### 11:15 AM - 11:30 AM

Question and Answer

## 10:00 AM - 11:30 AM

**S R** Echocardiography in Clinical Trials as Applied to Practice - Room 613

Chairs: E. Gill, S. Solomon

### 10:00 AM - 10:15 AM

Serial Changes in Cardiac Structure and Function: When is a Change Meaningful?

L. Gillam

### 10:15 AM - 10:30 AM

Diastolic Function Assessment: When Numbers Do Not Match

E. Gill

### 10:30 AM - 10:45 AM

Serial Assessment of Pulmonary Hypertension Right Heart Function: Pearls and Pitfalls

J. Hung

### 10:45 AM - 11:00 AM

Common Measurement Challenges in Guiding Structural Heart Interventions

F. Asch

### 11:00 AM - 11:15 AM

Best Practices in Core-Lab in the Era of Multimodality Imaging

P. Douglas

### 11:15 AM - 11:30 AM

Question and Answer



1:00 PM – 2:30 PM

**S** The Assessment of Aortic Stenosis: Echo as the Gold Standard - Ballroom 6A

Chairs: A. DeMaria, W. Zoghbi

1:00 PM - 1:15 PM

Overview/Perspective

J. Dal-Bianco

1:15 PM - 1:30 PM

The Gold Standard: Echo/Doppler Evaluation

D. Rubenson

1:30 PM - 1:45 PM

Low Flow, Low Gradient Aortic Stenosis

I. Burwash

1:45 PM - 2:00 PM

Is It Truly Severe Aortic Stenosis? When TTE Just Isn't Enough

M. Saric

2:00 PM - 2:15 PM

Guidance from the Guidelines

C. Otto

2:15 PM – 2:30 PM

Question and Answer

1:00 PM - 2:30 PM

**S** The Real World Echo Lab – Ballroom 6B

Moderators: B. Byrd, P. Douglas

1:00 PM - 1:15 PM

What Sustainable Growth Rate Repeat Means to Your Operations

G. Rose

1:15 PM - 1:30 PM

Reimbursement 101: What You Must Know

M. Main

1:30 PM - 1:45 PM

How to Benchmark Your Lab's Quality and Productivity

M. Picard

1:45 PM - 2:00 PM

"No Conflicts, No Interest" – New Issues Related to Conflict of Interest

J. Dent

2:00 PM - 2:15 PM

Putting It Together: A Strategy for Managing Your Lab

R. Stainback

2:15 PM – 2:30 PM

Question and Answer

1:00 PM - 2:30 PM

**PC** Focus on Quality Assurance and Appropriate Use Criteria - Ballroom 6C

Chairs: R. Sachdeva, A. Younoszai

1:00 PM - 1:15 PM

Reproducibility Between Sonographers (and Fellows)

J. Kreeger

1:15 PM - 1:30 PM

Standardization Between Readers and Labs

L. Lopez

1:30 PM - 1:45 PM

Standard Display and Orientation of 3D Echo Anatomy

J. Simpson

1:45 PM - 2:00 PM

Real-Time Integration and Reporting of Novel Technologies

P. Frommelt

2:00 PM - 2:15 PM

Beyond QA: How to Create a Culture of Continuous Quality Improvement

A. Younoszai

2:15 PM – 2:30 PM

Question and Answer

1:00 PM - 2:30 PM

**P** No 2D Allowed: 3D for the Operating Room - Ballroom 6E

Chairs: A. Finley, S. Shillcutt

1:00 PM - 1:15 PM

Artifacts and General Principles for Optimizing 3D

S. Shernan

1:15 PM - 1:30 PM

Maximizing Multiplanar Reconstruction

F. Mahmood

1:30 PM - 1:45 PM

How I Use 3D for the Mitral Valve

D. Shook

1:45 PM - 2:00 PM

How I Use 3D for the Aortic Valve

S. Shernan

2:00 PM - 2:15 PM

How I Use 3D for the Right Heart

G. Mackensen

2:15 PM – 2:30 PM

Question and Answer

## 1:00 PM - 2:30 PM

### **E** **CL** Guidance from the Guidelines and Standards - Room 609

*Chairs: L. Gillam, J. Marshall*

#### 1:00 PM - 1:15 PM

Diving into Diastology

*M. Bierig*

#### 1:15 PM - 1:30 PM

Standing Up to the Aortic Valve

*A. Pellett*

#### 1:30 PM - 1:45 PM

LVAD: Visualizing the Cannulas

*K. McGregor*

#### 1:45 PM - 2:00 PM

The Right Wing: Pulmonic and Tricuspid Valve

*J. Kreeger*

#### 2:00 PM - 2:15 PM

Cardiac Source of Emboli

*M. Roberts*

#### 2:15 PM - 2:30 PM

Question and Answer

## 1:00 PM - 2:30 PM

### **S** How to Assess Left Atrial Size and Function - Room 613

*Chairs: L. Badano, T. Tsang*

#### 1:00 PM - 1:15 PM

Atrial Size: 2D vs. 3D; Which is Better?

*K. Yared*

#### 1:15 PM - 1:30 PM

Anatomy and Function of the Left Atrium and Appendage

*B. Hoit*

#### 1:30 PM - 1:45 PM

Lessons Learned About the Imaging the Left Atrial

Appendage for Cardioversion

*M. Stoddard*

#### 1:45 PM - 2:00 PM

Guidance of Left Atrial Appendage Closure

*W. Jaber*

#### 2:00 PM - 2:15 PM

Is There a Role for Assessing Left Atrium Mechanics

*L. Thomas*

#### 2:15 PM - 2:30 PM

Question and Answer

## 3:00 PM - 4:30 PM

### **S** Right On! The Right Heart - Ballroom 6A

*Chairs: L. Rudski, M. Vannan*

#### 3:00 PM - 3:15 PM

Applying the Guidelines

*L. Rudski*

#### 3:15 PM - 3:30 PM

Ventricular-Ventricular Interaction in Pulmonary Hypertension

*M. Friedberg*

#### 3:30 PM - 3:45 PM

3D Rules in the Assessment of the Right Ventricle

*L. Badano*

#### 3:45 PM - 4:00 PM

The Lost Valves: How to Assess the Tricuspid Valve and Pulmonary Valve?

*L. Sade*

#### 4:00 PM - 4:15 PM

Role of Strain to Assess Right Ventricular Function

*G. Kane*

#### 4:15 PM - 4:30 PM

Question and Answer

## 3:00 PM - 4:30 PM

### **S** Contrast Perfusion - Ballroom 6B

*Chairs: J. Lindner, M. Main*

#### 3:00 PM - 3:15 PM

Perfusion Imaging: The Theory and the Reality

*K. Wei*

#### 3:15 PM - 3:30 PM

Acute Myocardial Infarction: Stunning vs. Necrosis

*M. Main*

#### 3:30 PM - 3:45 PM

Chronic Ischemic Heart Disease: Detecting Hibernation

*R. Senior*

#### 3:45 PM - 4:00 PM

Myocardial Perfusion During Stress Echocardiography

*K. Wei*

#### 4:00 PM - 4:15 PM

Differentiating Tumors and Masses

*C. Taub*

#### 4:15 PM - 4:30 PM

Question and Answer

**3:00 PM - 4:30 PM****PC Pediatric Echo Jeopardy - Ballroom 6C***Chairs: M. Brook, D. Harrild***Team Midwest***C. Statile, T. Thorsson***Team Pacific***G. Kung, M. Toyono***Team Texas***S. Morris, R. Tunks***Team Southeast***W. Border, C. Taylor***Council on Pediatric and Congenital Heart Disease  
Business Meeting***Chair: M. Cohen***3:00 PM - 4:30 PM****P Hypertrophic Cardiomyopathy in the Operating  
Room - Ballroom 6E***Chairs: F. Mahmood, M. Swaminathan***3:00 PM - 3:15 PM**

Measuring Myocardial Hypertrophy

*S. Pai Cole***3:15 PM - 3:30 PM**

Alcohol Ablation Considerations

*TBD***3:30 PM - 3:45 PM**Surgical Considerations: Should Mitral Valve Be  
Replaced?*B. Taylor***3:45 PM - 4:00 PM**

Intraoperative TEE: Guiding the Myectomy

*F. Cobey***4:00 PM - 4:15 PM**

Unusual Causes of Left Ventricular Outflow Obstruction

*M. Taylor***4:15 PM - 4:30 PM**

Question and Answer

**3:00 PM - 4:30 PM****E CL When It Does Not Make Sense: Putting the  
Pieces Together - Room 609***Chairs: G. Aurigemma, M. Umland***3:00 PM - 3:15 PM**

Diastology Discrepancies

*C. Kramer***3:15 PM - 3:30 PM**

Low Flow Aortic Stenosis

*J. Aragam***3:30 PM - 3:45 PM**

Mistaken Identities: What's in the Heart

*J. Cleve***3:45 PM - 4:00 PM**

When the Right Heart is Wrong

*G. Aurigemma***4:00 PM - 4:15 PM**

Constriction vs. Restriction

*S. Miller***4:15 PM - 4:30 PM**

Question and Answer

**3:00 PM - 4:30 PM****S Is Focused Echo Important? It's Critical! -  
Room 613***Moderators: K. Spencer, T. Costantino***3:00 PM - 3:15 PM**

POCUS in Dyspnea

*A. Dean***3:15 PM - 3:30 PM**

RUSH Protocol

*J. Fields***3:30 PM - 3:45 PM**

Transthoracic Echo for Aortic Dissection

*K. Spencer***3:45 PM - 4:00 PM**

POCUS in the ICU

*A. Morris***4:00 PM - 4:15 PM**

Focused Echo Guided Procedures

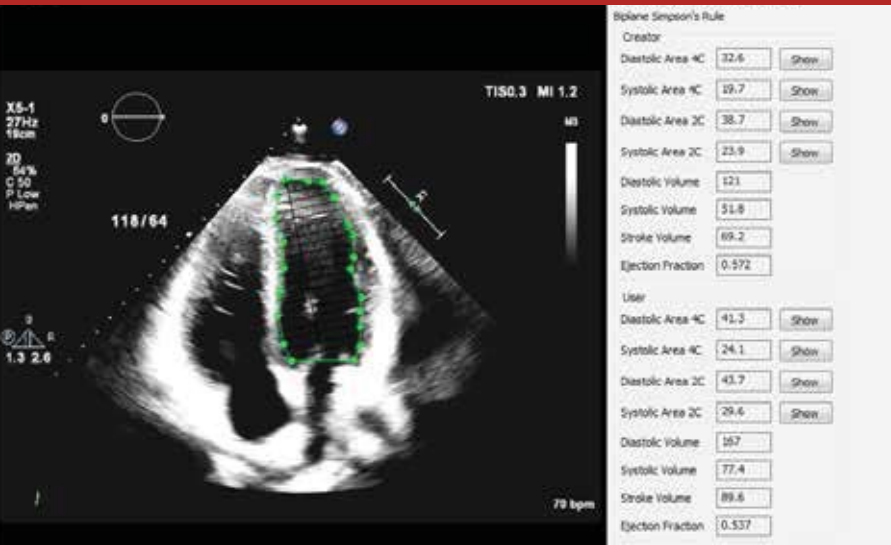
*D. Sedehi***4:15 PM - 4:30 PM**

Question and Answer

**3:30 PM - 4:30 PM****Educators Summit - Room 303**

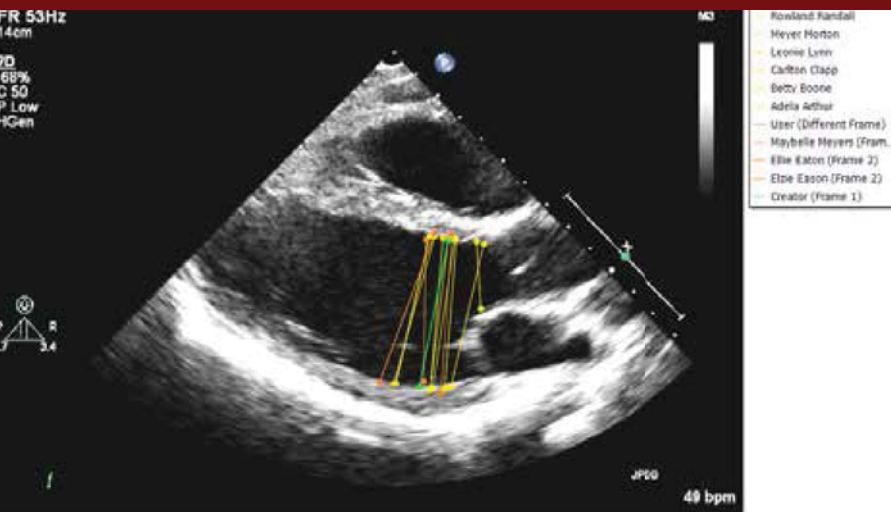
# Creative Learning; Better Outcomes

This one-of-a-kind tool enhances the skills of sonographers and physicians by teaching consistent measurement and interpretation of cardiac ultrasound images.



*"As we move into the era of rewarding value over volume, it becomes increasingly vital that echocardiographic measurements and interpretations must be accurate and reproducible for echocardiography to continue to be cost effective."*

Harvey Feigenbaum, MD, FASE, and Founder of ASE



## ECHO TEST & TEACH APPLICATION

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# Schedule at a Glance

## SUNDAY, JUNE 12<sup>TH</sup>

REGISTRATION OPEN: 6:30 AM - 6:00 PM						
EXHIBIT & POSTER HALL OPEN: 9:00 AM - 4:00 PM						
ROOM	BALLROOM 6A	BALLROOM 6B	BALLROOM 6C	BALLROOM 6E	ROOM 609	ROOM 613
7:00 - 7:50 AM	 Phenotype Look-Alike I	 Right Ventricular Function and Dysfunction	 How to: 3D – From Imaging to Printing		  Bubble Bubbles Toils and Troubles	 Great Vibrations or Artifact
8:00 – 9:30 AM	 ASE AWARDS PRESENTATIONS, ANNOUNCEMENTS, AND 27TH ANNUAL EDLER LECTURE - BALLROOM 6E					
9:30 – 10:15 AM	REFRESHMENT BREAK, CHALK TALKS, AND VISIT EXHIBIT & POSTER HALL					
10:15 – 11:45 AM	 Electric Echo	 Echo: Your Window to Detect Subclinical Disease	 What I Wish I Knew About Echo	 Strain: Challenges and Opportunities (Joint ASE/EACVI Session) 	  3D What Does It Add?	 Contrast: Therapeutic Value
11:45 AM - 1:15 PM	SCIENCE & TECHNOLOGY THEATER: GE HEALTHCARE, SONOGRAPHER INVESTIGATOR'S AWARD COMPETITION, MEET THE INVESTIGATORS					
1:15 – 2:45 PM	 ASE Foundation Global Initiatives: Humanitarian Missions in Argentina and Vietnam	 Valvular Heart Disease: Step-by-Step Approach: Beyond Aortic Stenosis	 Strain and Cardiac Mechanics	 The Great Debates: Training, Practice, and Ethics	  Looking at the Mitral Valve from All Sides	 Vortex Imaging: Principles and Application (Joint ASE/JSE Session) 
2:45 – 3:30 PM	REFRESHMENT BREAK, CHALK TALKS, AND VISIT EXHIBIT & POSTER HALL					
3:30 – 5:00 PM	 Interventional Echo: A Burgeoning Subspecialty		 Extreme Imaging	 Deep Dive Into Diastology: Read with the Experts	 Advanced Imaging: It Takes a Team: Sonographer/ Cardiologist	 Stress Echocardiography: Read with the Experts (Joint ASE/EACVI Session) 
5:00 – 6:00 PM	  ECHOVATION COMPETITION - BALLROOM 6B 					
6:00 - 8:00 PM	ASE FOUNDATION'S ANNUAL SCAVENGER HUNT <i>This event requires a separate registration. Proceeds benefit the ASE Foundation's charitable activities.</i>					

For detailed information, please download the ASE Live Educational Courses app or visit [ASEScientificSessions.org](http://ASEScientificSessions.org).

# Sunday, June 12th

## Networking Opportunities and Special Events

### 27<sup>TH</sup> ANNUAL EDLER LECTURE

8:00 – 9:30 AM

#### Ballroom 6E

Neil J. Weissman, MD, FASE, ASE's Immediate Past President, will present "The Future of Echocardiography: Disrupter or Disrupted?" as the 27th Annual Edler Lecture. The Edler Lecture was created in 1990 in honor of the founder of echocardiography, Inge Edler, MD.

### CHALK TALKS

9:30 – 10:15 AM & 2:45 – 3:30 PM

#### Exhibit & Poster Hall

Have clinical questions? This is your opportunity to get answers from luminaries in the field of echo in an intimate setting. During the morning break, **James Thomas, MD, FASE**, will be available to answer all of your questions about Hemodynamics. The afternoon break will be dedicated to Quantification of Regurgitant Volumes with **Miguel Quiñones, MD, FASE**.

### 2016 SONOGRAPHER INVESTIGATOR'S AWARD COMPETITION

12:00 – 1:15 PM

#### Exhibit & Poster Hall

Created to highlight sonographer-led research, this competition recognizes non-physicians who served as the primary investigator on their project of original work.

### POSTER SESSION 1 (P1) MODERATED POSTERS

12:00 – 1:15 PM

#### Exhibit & Poster Hall

### FELLOW AND EARLY CAREER MEMBER NETWORKING RECEPTION

2:45 – 3:30 PM

#### Room 3A

The ASE Membership Steering Committee and Board of Directors invites fellow and early career physician and sonographer members for a dessert reception. Meet other members who are just beginning their careers, while

networking with leaders in the field of echocardiography. Representatives from the special interest councils, the Membership Steering Committee, and ASE Past Presidents will be there to share how ASE helped their careers.

### ECHOVATION CHALLENGE

5:00 – 6:00 PM

#### Ballroom 6B

This new competition will showcase process and workflow innovations that have either been adopted or are in development in echocardiography laboratories throughout the United States and across the world. A world-wide competition was initiated in 2015 and top-scoring finalists have been selected to present their innovations. Audience members and an esteemed judging panel will watch the finalists compete and rate their presentations. The winners will be awarded cash prizes. To add to the festivities the event will include cocktails and refreshments for the audience. Come and cheer on your favorite team and help us "crown" the winner of the 2016 challenge.

### ASE FOUNDATION SCAVENGER HUNT

6:00 – 10:00 PM

Capitol Hill is one of the most vibrant and interesting sections of Seattle and will serve as the location for the ASE Foundation's 2nd annual philanthropic team-building Scavenger Hunt. Not only will you see an iconic bookshop, critically acclaimed coffee shops, a modern apothecary, a local record shop, ice cream shop, and eclectic locals, you will also get your daily workout while walking the route. A hosted, private after-party for the Scavenger Hunt participants will be held at Capitol Cider – another local attraction in the heart of Capitol Hill. This event is the perfect opportunity to network with friends and colleagues in a heart-healthy and fun way. Prizes will be awarded to the top finishers at the end of the evening. Tickets are available onsite until 1:30 PM on Sunday. For more information, visit the ASE Foundation booth, located outside the Exhibit & Poster Hall on Level 4.

**7:00 AM - 7:50 AM****CL Phenotype Look Alike-I - Ballroom 6A***Chairs: G. Aurigemma, S. Lester***7:00 AM - 7:15 AM**

Stress Cardiomyopathy vs. Massive LAD-Territory Myocardial Infarction

*M. Wood***7:15 AM - 7:30 AM**

Athlete Heart vs. Subclinical Left Ventricular Systolic Dysfunction

*A. Magalski***7:30 AM - 7:45 AM**

Neurocardiogenic Disease vs. Massive LAD Myocardial Infarction

*V. Krishnamoorthy***7:45 AM - 7:50 AM**

Question and Answer

**7:00 AM - 7:50 AM****CL Right Ventricular Function and Dysfunction - Ballroom 6B***Chairs: J. Aragam, E. Tucay***7:00 AM - 7:15 AM**

Is This Right Ventricle Normal?

*P. Collier***7:15 AM - 7:30 AM**

Is This Right Ventricle Good Enough to Support An LVAD?

*J. Kirkpatrick***7:30 AM - 7:45 AM**

Right Ventricle and Plural Effusion

*A. Shah***7:45 AM - 7:50 AM**

Question and Answer

**7:00 AM - 7:50 AM****PC How to: 3D - From Imaging to Printing - Ballroom 6C***Chairs: D. Roberson, G. Shirali***7:00 AM - 7:15 AM**

Fundamentals and Limitations of 3D Transthoracic Echo

*G. Marx***7:15 AM - 7:30 AM**

Intraoperative Management with 3D Transesophageal Echo

*A. Nicoara***7:30 AM - 7:45 AM**

From Scan to Model: The Nuts and Bolts of 3D Printing

*T. Pietila***7:45 AM - 7:50 AM**

Question and Answer

**7:00 AM - 7:50 AM****E CL Bubble Bubbles Toils and Troubles - Room 609***Chairs: C. Mitchell, T. Porter***7:00 AM - 7:10 AM**

Optimization: Role of Sonographer

*J. Odabashian***7:10 AM - 7:20 AM**

Bubbles Show the Flow

*H. Carron***7:20 AM - 7:30 AM**

Contrast Makes the Diagnosis

*J. Belcik***7:30 AM - 7:40 AM**

Without Contrast I Would Have Missed That

*J. Marshall***7:40 AM - 7:50 AM**

Question and Answer

**7:00 AM - 7:50 AM****CL Good Vibrations or Artifact - Room 613***Chairs: D. Linker, H. Rakowski***7:00 AM - 7:15 AM**

Is This Aortic Dissection?

*A. Chen***7:15 AM - 7:30 AM**

Is This Clot in Left Ventricular Cavity?

*B. Lin***7:30 AM - 7:45 AM**

Mass in Left Atrial Appendage: Can I Cardiovert?

*Z. Goldberger***7:45 AM - 7:50 AM**

Question and Answer

**8:00 AM - 9:30 AM****S ASE Awards Presentations, Announcements, and 26th Annual Edler Lecture - Ballroom 6E****8:00 AM - 8:15 AM**

Welcome and State of ASE

*S. Wieggers***8:15 AM - 8:30 AM**

Board of Directors Induction and Announcements

*S. Wieggers*

**8:30 AM - 8:50 AM**

Edler Lecture

*N. Weissman*

**8:50 AM - 9:20 AM**

Awards Presentations and Other Society Recognitions

*S. Wieggers*

**9:20 AM - 9:30 AM**

Incoming President's Address

*A. Klein*

**9:30 AM - 11:30 AM**

**Learning Lab: 3D Volume/Function Quantification - Room 620** (Additional Fee Required)

*Chairs: W. Tsang, K. Collins*

**10:15 AM - 11:45 AM**

**S Electric Echo - Ballroom 6A**

*Chairs: J. Gorcsan, K. Poh*

**10:15 AM - 10:30 AM**

What the Heart Failure Specialist Wants From the Echo Lab Regarding CRT and Pacing?

*R. Cheng*

**10:30 AM - 10:45 AM**

AV and VV Optimization: How and When to do?

*T. Naqvi*

**10:45 AM - 11:00 AM**

Pacer Induced Tricuspid Regurgitation: How Often Does It Occur and How To Detect?

*G. Lin*

**11:00 AM - 11:15 AM**

The Mechanics of Left Ventricular Dyssynchrony

*F. Chaudhry*

**11:15 AM - 11:30 AM**

New Applications of Echo in Guiding CRT Treatment

*J. Gorcsan*

**11:30 AM - 11:45 AM**

Question and Answer

**10:15 AM - 11:45 AM**

**S Echo: Your Window to Detect Subclinical Disease - Ballroom 6B**

*Chairs: B. Popescu, M. Wood*

**10:15 AM - 10:30 AM**

Subclinical Atherosclerosis

*A. Johri*

**10:30 AM - 10:45 AM**

The Diabetic Heart

*M. Galderisi*

**10:45 AM - 11:00 AM**

The Athlete's Heart

*R. Weiner*

**11:00 AM - 11:15 AM**

Hypertension

*H. Dokainish*

**11:15 AM - 11:30 AM**

Left Ventricular Dysfunction and Chemotherapy

*M. Scherrer-Crosbie*

**11:30 AM - 11:45 AM**

Question and Answer

**10:15 AM - 11:45 AM**

**PC What I Wish I Knew About Echo - Ballroom 6C**

*Chairs: J. Kovalchin, S. Srivastava*

**10:15 AM - 10:30 AM**

History of 2D and 3D Echo Imaging

*J. Kisslo*

**10:30 AM - 10:45 AM**

Artifacts - Pitfalls, Traps and Disasters

*H. Ko*

**10:45 AM - 11:00 AM**

The Toughest Fetal Diagnoses and How to Solve Them

*C. Fifer*

**11:00 AM - 11:15 AM**

Radiology Envy: Advantages of Echo in the Age of CMR and CT

*D. Parra*

**11:15 AM - 11:30 AM**

The Art of Doppler

*M. Brook*

**11:30 AM - 11:45 AM**

Question and Answer

**10:15 AM - 11:45 AM**

**S Strain: Challenges & Opportunities (Joint ASE/EACVI Session) - Ballroom 6E**

*Chairs: L. Badano, X. Shu*



**10:15 AM - 10:30 AM**

Challenges in Standardization: In-vitro Studies

*J. D'hooge*

**10:30 AM - 10:45 AM**

Challenges in Standardization: Clinical Studies

*J. Voigt*

**10:45 AM - 11:00 AM**

Regional Strain Assessments: Principal, Application, and Pitfalls

*T. Abraham*



**11:00 AM - 11:15 AM**

3D Strain: Is There a Future? Which Strain Component to Measure?

*G. Pedrizzetti*

**11:15 AM - 11:30 AM**

Automated Strain Assessment and Big Data Analytics

*P. Sengupta*

**11:30 AM - 11:45 AM**

Question and Answer

**10:15 AM - 11:45 AM****E CL 3D What Does It Add? - Room 609**

*Chairs: B. Roberts, L. Sugeng*

**10:15 AM - 10:30 AM**

Pearls and Pitfalls of Getting Good Data

*E. Kruse*

**10:30 AM - 10:45 AM**

Should We Abandon 2D for Left Ventricular Volumes

*R. Meece*

**10:45 AM - 11:00 AM**

Role of 3D in Valvular Heart Disease

*S. Govind*

**11:00 AM - 11:15 AM**

Role of 3D in Device Guidance

*B. Roberts*

**11:15 AM - 11:30 AM**

Cases of Putting It All Together

*M. Yamat*

**11:30 AM - 11:45 AM**

Question and Answer

**10:15 AM - 11:45 AM****S Contrast: Therapeutic Value - Room 613**

*Chairs: T. Porter, A. Rabischoffsky*

**10:15 AM - 10:30 AM**

Sonothrombolysis

*T. Porter*

**10:30 AM - 10:45 AM**

Ultrasound Mediated Microbubble Destruction for Targeted Therapy

*H. Leong-Poi*

**10:45 AM - 11:00 AM**

Acute Myocardial Infarction: Clinical Trials

*O. Kamp*

**11:00 AM - 11:15 AM**

Microvascular Imaging

*F. Villanueva*

**11:15 AM - 11:30 AM**

Molecular Imaging

*J. Lindner*

**11:30 AM - 11:45 AM**

Question and Answer

**1:15 PM - 2:45 PM****S ASE Foundation Global Initiatives: Humanitarian Missions in Argentina and Vietnam - Ballroom 6A**

*Chairs: J. Banchs, J. Kirkpatrick, R. Lang*



**ASE**  
Foundation

**1:15 PM - 1:25 PM**

Making a Difference in the World: Anatomy of a Mission

*J. Banchs*

**1:25 PM - 1:35 PM**

Hanoi, Vietnam: Effect on the Delivery of Healthcare

*J. Kirkpatrick*

**1:35 PM - 1:45 PM**

What Did We Find? Unique Cases from Argentina

*G. Lammertin*

**1:45 PM - 1:55 PM**

Tartagal, Argentina: The Mission and Goals

*R. Lang*

**1:55 PM - 2:05 PM**

Vietnamese Perspective: Hopes for the Future

*H. Nguyen Thi Thu*

**2:05 PM - 2:15 PM**

Argentinian Perspective: Impact on the Local Community

*R. Ronderos*

**2:15 PM - 2:25 PM**

History of ASE Foundation Missions: A Pictorial Essay

*T. Ryan*

**2:25 PM - 2:35 PM**

ASE Sonographer-Vietnamese Nurse Connection

*L. Sanchez*

**2:35 PM - 2:45 PM**

Question and Answer

**1:15 PM - 2:45 PM****S Valvular Heart Disease: Step-by-Step Approach: Beyond Aortic Stenosis - Ballroom 6B**

*Chairs: A. Labovitz, A. Weyman*

**1:15 PM - 1:30 PM**

Quantification of Aortic Regurgitation: Still A Challenge

*B. Griffin*

## 1:30 PM - 1:45 PM

Interrogation and Quantification of Mitral Regurgitation  
*M. Sarano*

## 1:45 PM - 2:00 PM

Mitral Stenosis: Added Value of 3D Imaging  
*W. Tsang*

## 2:00 PM - 2:15 PM

Renewed Interest in the Tricuspid Valve  
*R. Freeman*

## 2:15 PM - 2:30 PM

The Forgotten Pulmonic Valve  
*W. Lai*

## 2:30 PM - 2:45 PM

Question and Answer

## 1:15 PM - 2:45 PM

### **PC** Strain and Cardiac Mechanics - Ballroom 6C

*Chairs: J. Marek, J. Thomas*

## 1:15 PM - 1:30 PM

Which Strain Do I Choose in 2016 and How Do I Do It?  
Practical Advice  
*A. Dragulescu*

## 1:30 PM - 1:45 PM

Strain and Early Detection of Cardiac Dysfunction  
*J. Ganame*

## 1:45 PM - 2:00 PM

Strain and the Single Ventricle  
*M. DiMaria*

## 2:00 PM - 2:15 PM

Cardiac Resynchronization Therapy in Congenital Heart Disease  
*D. Forsha*

## 2:15 PM - 2:30 PM

Future Clinical Directions of Strain Imaging  
*L. Mertens*

## 2:30 PM - 2:45 PM

Question and Answer

## 1:15 PM - 2:45 PM

### **S** The Great Debates: Training, Practice, and Ethics - Ballroom 6E

*Chairs: J. Hung, R. Martin*

## 1:15 PM - 1:45 PM

All Modality Training is Necessary for Optimal Careers in Cardiac Imaging  
*M. Garcia - Pro*  
*T. Ryan - Con*

## 1:45 PM - 2:15 PM

Anyone Can Do Echo: We Can Hang Up Our Stethoscopes  
*A. DeMaria - Pro*  
*N. Pandian - Con*

## 2:15 PM - 2:45 PM

Should Focused Cardiac Sonography Be Used Where Surgical/Interventional Treatment Options Are Not Available  
*P. Sengupta - Pro*  
*K. Spencer - Con*

## 1:15 PM - 3:15 PM

### **Learning Lab: 3D Cropping - Room 620**

*(Additional Fee Required)*

*Chairs: M. Monaghan, B. Roberts*

## 1:15 PM - 2:45 PM

### **E CL** Looking at the Mitral Valve from All Sides - Room 609

*Chairs: B. Anderson, S. Kort*

## 1:15 PM - 1:30 PM

Mitral Valve Morphology  
*J. Kisslo*

## 1:30 PM - 1:45 PM

Mitral Regurgitation: Go With the Flow  
*G. Whalley*

## 1:45 PM - 2:00 PM

Mitral Stenosis: How Stiff Is This Valve?  
*A. Venkateshvaran*

## 2:00 PM - 2:15 PM

The Sonographers Role: Pre Intervention Assessment  
*K. Zimmerman*

## 2:15 PM - 2:30 PM

Assessment of Prosthetic Mitral Valves  
*J. Cleve*

## 2:30 PM - 2:45 PM

Question and Answer

## 1:15 PM - 2:45 PM

### **S** Vortex Imaging: Principles and Application (Joint ASE/JSE Session) - Room 613

*Chairs: Y. Otsuji, R. Shandas*



## 1:15 PM - 1:30 PM

Contrast Bubbles for Tracking Blood Flow: The Basics  
*A. Kheradvar*

## 1:30 PM - 1:45 PM

Doppler Based Techniques for Left Ventricular Vortex Imaging  
*S. Nakatani*

**1:45 PM - 2:00 PM**

CMR Techniques for Blood Flow Quantification in Aorta  
*A. Bolger*

**2:00 PM - 2:15 PM**

Echo-Particle Imaging Velocimetry: Clinical Application  
*K. Kusunose*

**2:15 PM - 2:30 PM**

Valve Design, Invitro Testing, 3D Techniques for Flow Modeling  
*A. Falahatpisheh*

**2:30 PM - 2:45 PM**

Question and Answer

**3:30 PM - 5:00 PM**

**P** **Interventional Echocardiography: A Burgeoning Subspecialty - Ballroom 6A**

*Chairs: S. Goldstein, L. Rodriguez*

**3:30 PM - 3:45 PM**

Interventional Echocardiography: Training, Safety, Cost  
*N. Weissman*

**3:45 PM - 4:00 PM**

Advanced Technology for Imaging Structural Heart Disease Interventions  
*S. Mankad*

**4:00 PM - 4:15 PM**

New Devices: New Imaging Challenges  
*P. Grayburn*

**4:15 PM - 4:30 PM**

Research in Interventional Echocardiography  
*F. Asch*

**4:30 PM - 4:45 PM**

The Future of Structural Heart Disease Interventions: Essential Role of the Imager  
*I. Kronzon*

**4:45 PM - 5:00 PM**

Question and Answer

**3:30 PM - 5:00 PM**

**PC** **Extreme Imaging - Ballroom 6C**

*Chairs: N. Khoo, A. Powell*

**3:30 PM - 3:45 PM**

3D Ventricular Fiber Anatomy and Function  
*S. Kutty*

**3:45 PM - 4:00 PM**

Remodeling: Which Comes First, Flow or Geometry?  
*P. Claus*

**4:00 PM - 4:15 PM**

Virtual Modeling and Computational Fluid Mechanics  
*P. Bhatla*

**4:15 PM - 4:30 PM**

3D Modeling from Echocardiography Datasets  
*A. Ludomirsky*

**4:30 PM - 4:45 PM**

The Future of Integrated Imaging Technology  
*A. Powell*

**4:45 PM - 5:00 PM**

Question and Answer

**3:30 PM - 5:00 PM**

**S** **Deep Dive Into Diastology: Read with the Experts - Ballroom 6E**

*Chairs: J. Lowenstein, J. Seward*

**3:30 PM - 3:45 PM**

Mitral and Tricuspid Inflow: E's and A's, Are They Still Relevant?  
*S. Nagueh*

**3:45 PM - 4:00 PM**

All You Need is Tissue Doppler  
*D. Sohn*

**4:00 PM - 4:15 PM**

Intervals and Veins: Added Benefit?  
*M. Quiñones*

**4:15 PM - 4:30 PM**

Relax, Don't Strain about Twist  
*G. Scalia*

**4:30 PM - 4:45 PM**

Putting It All Together: What Do the Guidelines Say  
*O. Smiseth*

**4:45 PM - 5:00 PM**

Question and Answer

**3:30 PM - 5:00 PM**

**S** **Learning Lab: Myocardial Strain by Speckle Tracking - Room 620 (Additional Fee Required)**

*Chairs: J. Gorcsan, J. Hill*

**3:30 PM - 5:00 PM**

**E** **Advanced Imaging: It Takes a Team: Sonographer/Cardiologist - Room 609**

*Chairs: R. Grimm, D. Agler*

**3:30 PM - 3:45 PM**

Oncology and Radiation Heart Disease  
*J. Banchs, L. Sanchez*

**3:45 PM - 4:00 PM**

Mitral Valve Pre-Intervention  
*S. Mankad, D. McCullough*

**4:00 PM - 4:15 PM**

How Technique Can Affect the Severity of Aortic Stenosis

*D. Agler, R. Grimm*

**4:15 PM - 4:30 PM**

Ischemic vs. Nonischemic Cardiomyopathy

*T. Abraham, S. Phillip*

**4:30 PM - 4:45 PM**

3D: What Does It Add?

*R. Kaplan, L. Sugeng*

**4:45 PM - 5:00 PM**

Question and Answer

**3:30 PM - 5:00 PM**

**S Stress Echocardiography: Read with the Experts**  
**(Joint ASE/EACVI Session) – Room 613**

*Chairs: P. Douglas, B. Popescu*



**3:30 PM - 3:45 PM**

Stress Echo in CAD

*P. Pellikka*

**3:45 PM - 4:00 PM**

Dead or Alive? Viability Assessment with Dobutamine  
Stress Echocardiography

*S. Sawada*

**4:00 PM - 4:15 PM**

Stress Echo in Valvular Disease

*E. Donal*

**4:15 PM - 4:30 PM**

Perfusion Imaging: If Not Now, When?

*R. Senior*

**4:30 PM - 4:45 PM**

Diastolic Stress Test

*B. Popescu*

**4:45 PM - 5:00 PM**

Question and Answer

**5:00 PM - 6:00 PM**

**S R Echovation Challenge - Ballroom 6B**

*Chair: S. Lester*





# Schedule at a Glance

MONDAY, JUNE 13<sup>TH</sup>

REGISTRATION OPEN: 6:30 AM - 6:00 PM						
EXHIBIT & POSTER HALL OPEN: 9:00 AM - 4:00 PM						
ROOM	BALLROOM 6A	BALLROOM 6B	BALLROOM 6C	BALLROOM 6E	ROOM 609	ROOM 613
7:00 - 7:50 AM	<b>CL</b> Phenotype Look Alike 2	<b>CL</b> Pulmonary Hypertension	<b>PC</b> Pericardial Disease		<b>E</b> The Advanced Cardiac Sonographer Role	<b>V</b> Vascular Disease in the Cardiology Patient
8:00 - 9:30 AM	<b>S</b> Imaging for TAVR	<b>S</b> Functional Mitral Regurgitation	<b>P</b> Echo and Intervention		<b>E</b> Cardiac Mechanics: Do We Need It?	<b>V</b> Advanced Topics in Vascular Ultrasound
9:30 - 10:15 AM	REFRESHMENT BREAK, CHALK TALKS, AND VISIT EXHIBIT & POSTER HALL					
10:15 - 11:45 AM	<b>S</b> Strain: Clinical Applications	<b>S</b> It's All About the Aorta	<b>S</b> The Stressed Right Ventricle (Joint ASE/EACVI Session) 	<b>P</b> Interventional Echocardiography Live Case Demonstration: Mitra-Clip Case	<b>E V</b> Hot Topics in Vascular Laboratory Management (Joint Sonographer/Vascular Council Session)	<b>S</b> Prosthetic Valves 101
11:45 AM - 1:15 PM	SCIENCE & TECHNOLOGY THEATER: PHILIPS HEALTHCARE, MEET THE INVESTIGATORS					
1:15 - 2:45 PM	<b>S</b> The Trials and Tribulations of Motherhood	<b>S</b> Dermatology of the Heart	<b>PC R</b> Oral Abstracts and Fireside Chat	<b>P</b> Interventional Echocardiography Live Case Demonstration: Paravalvular Leak, Watchman, or Valve-in-Valve Case	<b>E</b> Sonography From Around the World: How They Do It	<b>S</b> Endocarditis: 3 Cases, 3 Key Points
2:45 - 3:30 PM	REFRESHMENT BREAK, CHALK TALKS, AND VISIT EXHIBIT & POSTER HALL					
3:30 - 5:15 PM	<b>S R</b> ARTHUR E. WEYMAN YOUNG INVESTIGATOR'S AWARD COMPETITION/ 17 <sup>TH</sup> ANNUAL FEIGENBAUM LECTURE - BALLROOM 6E					
5:15 - 6:15 PM	MEMBER RECEPTION - ELLIS PLAZA, LEVEL 4 					

For detailed information, please download the ASE Live Educational Courses app or visit [ASEScientificSessions.org](https://www.ase-scientific-sessions.org).

# Monday, June 13<sup>th</sup>

## Networking Opportunities and Special Events

### CHALK TALKS

9:30 – 10:15 AM and 2:45 – 3:30 PM

#### Exhibit & Poster Hall

Don't miss the opportunity to get your clinical questions answered by expert faculty. During the morning break, **William Zoghbi, MD, FASE**, will discuss Pearls in Diastology. The afternoon break will feature **Jason Johnson, MD, Mark Lewin, MD, FASE, Colin McMahon, MD, FASE, and Christopher Statile, MD** discussing the use of 3D Printing to understand and treat cardiac pathology.

### POSTER SESSION 2 (P2) MODERATED POSTERS

12:00 – 1:15 PM

#### Exhibit & Poster Hall

### ARTHUR E. WEYMAN YOUNG INVESTIGATOR'S AWARD COMPETITION AND 17TH ANNUAL FEIGENBAUM LECTURE

3:30 – 5:00 PM

#### Ballroom 6E

Investigators will present their research and **Theodore P. Abraham, MBBS, MD, FASE**, Director, Johns Hopkins Echocardiography Programs, will deliver the 17th Annual Feigenbaum Lecture "Echo Muscles into the Mechanics Era – Strain Transforms Morphologists into Physiologists" on the use of novel technologies in echocardiography.

### ECHO LAB BENCHMARKING RESEARCH STUDY

5:00 – 5:15 PM

#### Ballroom 6E

Larry Sobal, MBA, Executive Vice President of Business Development for MedAxiom, will present the preliminary results of the first comprehensive study of Echo Labs. Spanning across the U.S., encompassing both large and small private practices and hospital systems, this view of the organizational and transformational practices in labs will be a captivating view of the patient care system. The survey provided much-needed baseline metrics for the field. Learn how labs across the U.S. compared in their workplace

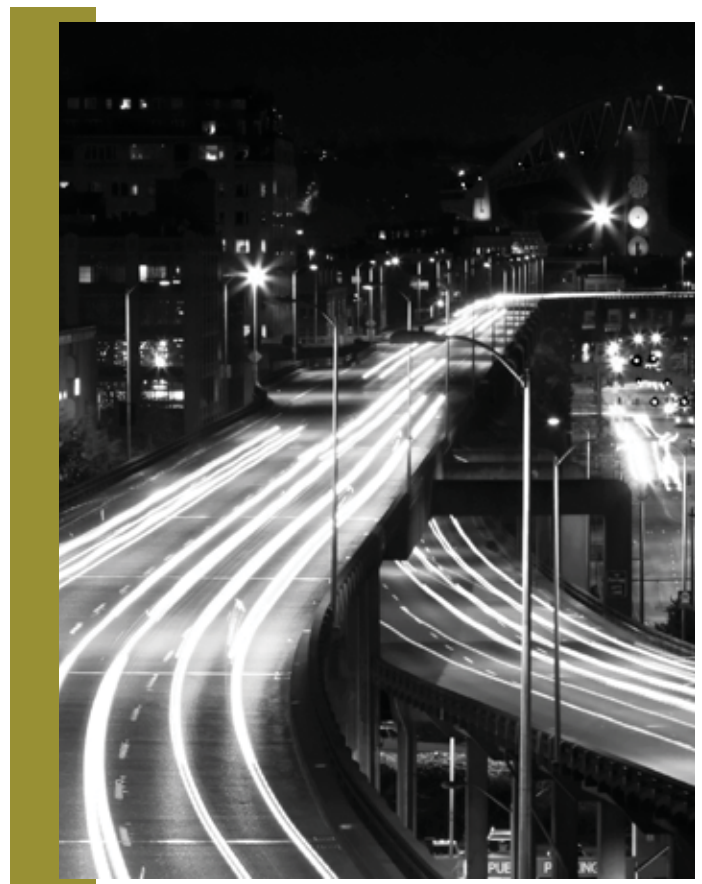
organizational, operational, clinical, and transformational workflows and techniques. Data obtained from the survey will be analyzed in context of the larger healthcare environment. Tips will be given on how you can use the results to set progressive goals for your lab that will allow you to better compete in your medical communities and improve patient care.

### MEMBER RECEPTION

5:15 – 6:15 PM

#### Ellis Plaza, Level 4

All attendees are invited to this complimentary welcome reception. Enjoy beverages and hors d'oeuvres while connecting with colleagues and friends. Dr. Roberto Canessa will be at the ASE Foundation booth during this time to sign his latest book, *I Had to Survive: How a Plane Crash in the Andes Inspired My Calling to Save Lives*, for those who pre-ordered the book by making a donation to the Foundation.



7:00 AM - 7:50 AM

**CL** Phenotype Look Alike-II - Ballroom 6A

*Chairs: B. Austin, A. Hays*

7:00 AM - 7:15 AM

Amyloid vs. Non-Obstructive Hypertrophic Cardiomyopathy  
*D. Phelan*

7:15 AM - 7:30 AM

Athletes vs. Non-Obstructive Hypertrophic Cardiomyopathy  
*K. Klarich*

7:30 AM - 7:45 AM

Hypertensive Heart Disease vs. Fabry's Cardiomyopathy  
*M. Keane*

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**CL** Pulmonary Hypertension - Ballroom 6B

*Chairs: B. Byrd, O. Sanchez Osella*

7:00 AM - 7:15 AM

Pitfalls in Assessing Pulmonary Pressures  
*S. Lester*

7:15 AM - 7:30 AM

Primary Pulmonary Hypertension  
*P. Gutierrez-Fajardo*

7:30 AM - 7:45 AM

Pulmonary Hypertension Due to Ventricular Septal Defect  
*S. Siu*

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**PC** Pericardial Disease - Ballroom 6C

*Chairs: G. Ensing, G. Rose*

7:00 AM - 7:15 AM

Pericardial Tamponade: Imaging and Physiology  
*S. Natarajan*

7:15 AM - 7:30 AM

Teratoma and Extrinsic Masses  
*R. Beroukhi*

7:30 AM - 7:45 AM

Pericarditis: Restriction/Constriction  
*T. Welch*

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**E** The Advanced Cardiac Sonographer Role - Room 609

*Chairs: M. Bierig, F. Miller*

7:00 AM - 7:15 AM

Pathway to the Credential  
*J. Toptine*

7:15 AM - 7:30 AM

Improving Lab Efficiency  
*M. Umland*

7:30 AM - 7:45 AM

Improving Lab Quality  
*G. Strachan*

7:45 AM - 7:50 AM

Question and Answer

7:00 AM - 7:50 AM

**V** Vascular Disease in the Cardiology Patient - Room 613

*Chairs: R. Eberhardt, T. Naqui*

7:00 AM - 7:15 AM

AAA Screening: Who, When, How, Now What?  
*R. Eberhardt, R. Quiroz*

7:15 AM - 7:30 AM

Claudication: What Do I Order, How Do I Interpret, When to Refer  
*G. Moneta, B. Wells*

7:30 AM - 7:45 AM

Abnormal Carotid Duplex Report: When to Monitor, When to Treat  
*F. Shamoun, S. Mulvagh*

7:45 AM - 7:50 AM

Question and Answer

8:00 AM - 9:30 AM

**S** Imaging for TAVR - Ballroom 6A

*Moderators: R. Hahn, T. Shiota*

8:00 AM - 8:12 AM

TAVR Overview: Where We've Been, Where We're Going  
*R. Hahn*

8:12 AM - 8:24 AM

Role of CT and CMR for Patient/Procedure Selection  
*J. Leipsic*

8:24 AM - 8:36 AM

Role of Echo for Patient/Procedure Selection  
*M. Monaghan*

8:36 AM - 8:52 AM

The Heart Team in Action  
*E. Perpetua*

**8:52 AM - 9:04 AM**

Intraprocedural Guidance/Complications

*L. Rodriguez*

**9:04 AM - 9:16 AM**

Post Procedural Evaluation

*K. Maganti*

**9:16 AM - 9:30 AM**

Question and Answer

**8:00 AM - 9:30 AM**

**S Functional Mitral Regurgitation - Ballroom 6B**

*Chairs: R. Martin, H. Rakowski*

**8:00 AM - 8:10 AM**

Impact of Functional Mitral Regurgitation on Outcomes

*B. Carabello*

**8:10 AM - 8:25 AM**

Mechanisms of Functional Mitral Regurgitation:  
Insights From Imaging

*J. Hung*

**8:25 AM - 8:45 AM**

How to Assess Functional Mitral Regurgitation Severity

*M. Vieira*

**8:45 AM - 9:00 AM**

Indications for Intervention in Functional  
Mitral Regurgitation

*R. Siegel*

**9:00 AM - 9:15 AM**

Percutaneous Repair vs. Surgical Options

*M. Sarano*

**9:15 AM - 9:30 AM**

Question and Answer

**8:00 AM - 9:30 AM**

**PC Echo and Intervention - Ballroom 6C**

*Chairs: B. Eiden, W. Tworetzky*

**8:00 AM - 8:20 AM**

Fetal Atrial Septoplasty in Hypoplastic Left Heart Syndrome

*W. Tworetzky*

**8:20 AM - 8:40 AM**

Device Closure of Ventricular Septal Defects

*A. Cabalka*

**8:40 AM - 9:00 AM**

Melody Valve Placement in the Non-Pulmonary Position

*T. Geva*

**9:00 AM - 9:20 AM**

TAVR in 2016: Selection, Placement, and Durability

*T. Slesnick*

**9:20 AM - 9:30 AM**

Question and Answer

**8:00 AM - 9:30 AM**

**E Cardiac Mechanics: Do We Need It? - Room 609**

*Chairs: S. Mankad, S. Phillip*

**8:00 AM - 8:15 AM**

Understanding 2D Strain

*P. Bastiansen*

**8:15 AM - 8:30 AM**

Implementing in Your Lab - Step-by-Step Approach

*A. Dillenbeck*

**8:30 AM - 8:45 AM**

What Role Does It Play in Cardiotoxicity?

*S. Mayer*

**8:45 AM - 9:00 AM**

What Does the Pattern Mean?

*A. Davis*

**9:00 AM - 9:15 AM**

Did We Forget the Right Ventricle Again?

*D. Crabbe*

**9:15 AM - 9:30 AM**

Question and Answer

**8:00 AM - 9:30 AM**

**V Advanced Topics in Vascular Ultrasound - Room 613**

*Chairs: H. Becher, S. Kim*

**8:00 AM - 8:12 AM**

Council on Vascular Ultrasound Business Meeting

*S. Kim*

**8:12 AM - 8:24 AM**

Carotid Pathologies You Don't See Everyday

*S. Kim*

**8:24 AM - 8:36 AM**

Stents and Grafts: Imaging and Interpretation Pitfalls

*R. Eberhardt*

**8:36 AM - 8:48 AM**

Ultrasound Imaging of Arch Vessel Disease

*A. Johri*

**8:48 AM - 9:00 AM**

Ultrasound Imaging of Compression Syndromes: MALC,  
TOS, Nutcracker, May-Thurner

*R. Benenstein*

**9:00 AM - 9:12 AM**

Case Studies in Arterial Physiologic Testing

*B. Wells*

**9:12 AM - 9:30 AM**

Question and Answer



10:15 AM - 11:45 AM

**S Strain: Clinical Applications - Ballroom 6A**

Chairs: J. Mohan, J. Thomas

10:15 AM - 10:30 AM

Coronary Artery Disease

M. Bansal

10:30 AM - 10:45 AM

Valvular Heart Disease: Resistance Lesions

T. Marwick

10:45 AM - 11:00 AM

Valvular Heart Disease: Volume Lesions

S. Sengupta

11:00 AM - 11:15 AM

Infiltrative Cardiomyopathies

J. Oh

11:15 AM - 11:30 AM

Heart Failure Syndromes

S. Shah

11:30 AM - 11:45 AM

Question and Answer

10:15 AM - 11:45 AM

**S It's All About the Aorta - Ballroom 6B**

Chairs: C. Chow, M. Malkowski

10:15 AM - 10:30 AM

Multimodality Imaging of the Aorta: Incorporating Guidelines

J. Meadows

10:30 AM - 10:45 AM

Ouch! Acute Aortic Syndromes - The Clock is Ticking

S. Goldstein

10:45 AM - 11:00 AM

Congenital Aortopathy

M. King

11:00 AM - 11:15 AM

Aortic Trauma

A. Patel

11:15 AM - 11:30 AM

Aortitis: An Inflammatory Situation

J. Cavalcante

11:30 AM - 11:45 AM

Question and Answer

10:15 AM - 11:45 AM

**PC The Stressed Right Ventricle (Joint ASE/EACVI Session) - Ballroom 6C**

Chairs: P. Barker, J. Marek



10:15 AM - 10:35 AM

Unique Right Ventricular Adaptation to Fetal Volume/Pressure Overloaded States

F. Crispi

10:35 AM - 10:55 AM

One or the Other: The Right Ventricle in High Afterload States

M. Friedberg

10:55 AM - 11:15 AM

One or the Other: The Right Ventricle in High Preload States

C. Fleishman

11:15 AM - 11:35 AM

The Right Ventricle in Transition: From Preload to Afterload via the Cone Procedure

J. Marek

11:35 AM - 11:45 AM

Question and Answer

10:15 AM - 11:45 AM

**P Interventional Echocardiography Live Case Demonstration: Mitra-Clip Case - Ballroom 6E**

Convention Center Chair and Moderator: W. Stewart

**University of Washington**

Operator, Interventionalist

M. Reisman

Operator, Echocardiographer

G. Mackensen

Moderator, Echocardiographer

R. Hahn

**Convention Center Panelists**

S. Kapadia, P. Grayburn, S. Goldstein, K. Horton, R. Siegel

10:15 AM - 10:25 AM

Anatomy Pertinent to Mitral Interventions for Mitral Regurgitation, Mechanisms and Severity

S. Goldstein

10:45 AM - 10:55 AM

Patient Selection for MitraClip

R. Siegel

11:10 AM - 11:20 AM

Intraprocedural Guidance for Mitral Clip

P. Grayburn

11:30 AM - 11:40 AM

Future Percutaneous Devices For Treatment of Mitral Regurgitation

S. Kapadia

## 10:15 AM - 11:45 AM

**E V** Hot Topics in Vascular Laboratory Management  
(Joint Sonographer/Vascular Council Session) - Room 609  
*Chairs: B. Fowler, S. Robison*

### 10:15 AM - 10:30 AM

Nuts and Bolts of Vascular Accreditation: Protocols and Reporting  
*M. Hutchisson*

### 10:30 AM - 10:45 AM

Vascular Credentialing: Why and How  
*J. Shafer*

### 10:45 AM - 11:00 AM

QI for the Vascular Lab: IAC-VL Changes Decoded  
*S. Robison*

### 11:00 AM - 11:15 AM

Incorporating Vascular into the Echo Lab: Basic Considerations  
*B. Fowler*

### 11:15 AM - 11:30 AM

Ergonomics: Keeping Cardiovascular Sonographers Injury Free  
*C. Coffin*

### 11:30 AM - 11:45 AM

Question and Answer

## 10:15 AM - 11:45 AM

**S** Prosthetic Valves 101 - Room 613

*Moderators: M. Barbosa, L. Gillam*

### 10:15 AM - 10:30 AM

Guidelines in Action: 3 Cases, 3 Key Points  
*W. Zoghbi*

### 10:30 AM - 10:45 AM

Assessing Prosthetic Valve Stenosis: Clinical Pearls  
*A. Poppas*

### 10:45 AM - 11:00 AM

Assessing Prosthetic Valve Regurgitation in the Device Closure Era  
*W. Stewart*

### 11:00 AM - 11:15 AM

Prosthesis Patient Mismatch  
*P. Pibarot*

### 11:15 AM - 11:30 AM

Composite Root/Stentless Aortic Valve Replacement: Imaging Essentials  
*L. Rodriguez*

### 11:30 AM - 11:45 AM

Question and Answer

## 1:15 PM - 2:45 PM

**S** The Trials and Tribulations of Motherhood - Ballroom 6A  
*Chairs: L. Blauwet, A. Patel*

### 1:15 PM - 1:30 PM

Hemodynamics of Pregnancy  
*S. Sengupta*

### 1:30 PM - 1:45 PM

Marfan's and Bicuspid Aortopathy  
*H. Michelena*

### 1:45 PM - 2:00 PM

Valve Disease in Pregnancy: It's Complicated  
*L. Blauwet*

### 2:00 PM - 2:15 PM

Complex Congenital Heart Disease in Pregnancy  
*S. Siu*

### 2:15 PM - 2:30 PM

Cardiomyopathies and Pregnancy  
*A. Poppas*

### 2:30 PM - 2:45 PM

Question and Answer

## 1:15 PM - 2:45 PM

**S** Dermatology of the Heart - Ballroom 6B

*Chairs: B. Hoit, J. Oh*

### 1:15 PM - 1:30 PM

Anatomy and Pathophysiology of the Pericardium - The Basics  
*B. Hoit*

### 1:30 PM - 1:45 PM

Multimodality Imaging of the Pericardium: Choosing Appropriate Imaging  
*M. Desai*

### 1:45 PM - 2:00 PM

Acute/Recurrent Pericarditis: How to Image, What to do?  
*A. Klein*

### 2:00 PM - 2:15 PM

Pericardial Effusion/Tamponade: When and How to Intervene?  
*J. Ha*

### 2:15 PM - 2:30 PM

Pericardial Constriction and Mimickers  
*J. Oh*

### 2:30 PM - 2:45 PM

Question and Answer

1:15 PM - 3:30 PM

**PC R Oral Abstracts and Fireside Chat - Ballroom 6C**

*Chairs: P. Barker, C. Fleishman, M. Friedberg*

**1:15 PM - 1:30 PM**

PC-01: Preoperative Non-invasive Pressure-volume Loop Analysis Indices of Cardiac Mechanics can Predict Length of Stay after Stage 2 Palliation: Insights from the Pediatric Heart Network Single Ventricle Reconstruction Trial  
*S. Chowdhury*

**1:30 PM - 1:45 PM**

PC-02: Global Left Ventricular Relaxation: A Useful Predictive Echocardiographic Marker of Heart Transplant Rejection and Recovery in Children  
*L. Hernandez*

**1:45 PM - 2:00 PM**

PC-03: Era-based Trends in Diagnostic Accuracy of Fetal Echocardiography: An 18 Year Experience  
*L. Urbinelli*

**2:00 PM - 2:15 PM**

PC-04: Fetal Growth Restriction Induces Different Prenatal Phenotypes of Cardiac Remodeling  
*F. Crispi*

**2:15 PM - 2:30 PM**

PC-05: Applicability of the First Pediatric Appropriate Use Criteria for Outpatient Echocardiography to Clinical Practice  
*S. Kourtidou*

**2:30 PM - 2:45 PM**

PC-06: Surgical Unroofing of Intramural Anomalous Aortic Origin of a Coronary Artery in Pediatric Patients: A Single Center Perspective on Diagnosis and Outcomes  
*S. Sachdeva*

**2:45 PM - 3:30 PM**

Fireside Chat

*Interviewer: C. Fleishman*

*Interviewee: J. Kisslo*

1:15 PM - 2:45 PM

**P Interventional Echocardiography Live Case Demonstration: Paravalvular Leak, Watchman, or Valve-in-Valve Case - Ballroom 6E**

*Convention Center Chair and Moderator: W. Stewart*

**University of Washington**

Operator, Interventionalist

*M. Reisman*

Operator, Echocardiographer

*G. Mackensen*

Moderator, Echocardiographer

*R. Hahn*

**Convention Center Panelists**

*S. Kapadia, C. Bruce, I. Kronzon, J. Passeri, Brad Roberts*

**1:15 PM - 1:25 PM**

The Problem

*J. Passeri*

**1:45 PM - 1:55 PM**

Pre-Procedural Planning

*I. Kronzon*

**2:05 PM - 2:15 PM**

Intra Procedural Guidance by TEE

*C. Bruce*

**2:25 PM - 2:35 PM**

Outcomes, Follow Up, Future Directions

*S. Kapadia*

1:15 PM - 2:45 PM

**E Sonography From Around the World: How They Do It - Room 609**

*Chairs: E. McIlwain, N. Weissman*

**1:15 PM - 1:35 PM**

View from Down Under: Cardiac Mechanics

*B. Anderson*

**1:35 PM - 1:50 PM**

India Loves Echo: Pocket Ultrasound

*A. Venkateshvaran*

**1:50 PM - 2:10 PM**

Meeting Needs in Nigeria

*K. Ogunyankin*

**2:10 PM - 2:30 PM**

Valve Disease Around the Globe

*G. Whalley*

**2:30 PM - 2:45 PM**

Question and Answer

1:15 PM - 2:45 PM

**S Endocarditis: 3 Cases, 3 Key Points - Room 613**

*Chairs: J. Li, V. Rigolin*

**1:15 PM - 1:30 PM**

Left-sided Endocarditis

*W. Katz*

**1:30 PM - 1:45 PM**

Right-sided Endocarditis

*Y. Otsuji*

**1:45 PM - 2:00 PM**

Prosthetic Valve Endocarditis

*G. Habib*

**2:00 PM - 2:15 PM**

The Infected LVAD

*T. Kolas*

**2:15 PM - 2:30 PM**

Device Infections: Imaging and Clinical Decision-Making

*V. Rigolin*

**2:30 PM - 2:45 PM**

Question and Answer

**3:30 PM - 5:15 PM**

**S R** Arthur E. Weyman Young Investigator's Award Competition/17th Annual Feigenbaum – Ballroom 6E

*Chair: G. Rose*

*Judges: S. Mankad, G. Habib, S. Nakatani, L. Mertens, T. Porter,*

*A. Weyman, S. Wiegers*

**3:30 PM - 3:35 PM**

Welcome and Introduction of Judges

*G. Rose*

**3:35 PM - 3:50 PM**

YIA-1: Functional Tricuspid Regurgitation Due to Chronic Atrial Fibrillation: A 3-dimensional Transesophageal Echocardiography Study

*H. Utsunomiya*

**3:50 PM - 4:05 PM**

YIA-2: Novel Echocardiographic Measures of Left Ventricular Diastolic Stiffness in Children: A Validation Study

*S. Chowdhury*

**4:05 PM - 4:20 PM**

YIA-3: Echocardiographic Predictors of Transthyretin Cardiac Amyloidosis among Patients with Severe Aortic Stenosis Undergoing Transcatheter Aortic Valve Replacement

*A. Castano*

**4:20 PM - 4:35 PM**

YIA-4: Discovery of Multidimensional Aortic Stenosis Subphenotypes Using Unsupervised Cluster Analysis of Clinical and Imaging Data

*I. Sherifi*

**4:35 PM - 4:55 PM**

17<sup>th</sup> Annual Feigenbaum Lecture: Echo Muscles into the Mechanics Era – Strain Transforms Morphologists into Physiologists

*T. Abraham*

**4:55 PM - 4:58 PM**

Recognition of Feigenbaum Lecturer and Presentation of Plaque

*H. Feigenbaum*

**4:58 PM - 5:00 PM**

Presentation of the YIA Plaques and Announcement of the Winner

*A. Weyman*

**5:00 PM - 5:15 PM**

Echo Lab Benchmarking Research Study

*L. Sobal*



**ASE proudly recognizes our International Alliance Partners (listed alphabetically)**

**Argentinian Federation of Cardiology (FAC)**

*President: Dra. Narcisa Celina Gutiérrez*

**Asian-Pacific Association of Echocardiography (AAE)**

*President: Dr. Jae K. Oh*

**Canadian Society of Echocardiography (CSE)**

*President: Dr. Chi-Ming Chow*

**Chinese Society of Echocardiography (CSE)**

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**Vietnamese Society of Echocardiography (VSE)**

*President: Associate Professor Pham Nguyen Vinh*

The definition of the word "alliance" is a pact, coalition or friendship between two or more parties, made in order to advance common goals and to secure common interests. The goal of the ASE International Alliance Partners program is to share knowledge, expand thought leadership, and enhance standards and practices based on the best thinking worldwide for improved patient care.



# Schedule at a Glance

TUESDAY, JUNE 14<sup>TH</sup>

REGISTRATION OPEN: 6:30 AM - 2:30 PM					
EXHIBIT & POSTER HALL CLOSED					
ROOM	BALLROOM 6A	BALLROOM 6C	BALLROOM 6E	ROOM 609	ROOM 613
7:00 - 7:50 AM	<div>CL</div> <div>3D Echo in Use</div>	<div>PC</div> <div>CL</div> <div>Case Competition</div>	<div>CL</div> <div>Cases to Stump the Experts</div>	<div>E</div> <div>CL</div> <div>Stressing the Heart for All Ages</div>	<div>CL</div> <div>Patient-Centered Care, Time-Efficiency and Difficult Patients: How Do We Find the Right "Humanistic Gain Settings"?</div>
8:00 - 9:30 AM	<div>S</div> <div>The Echo Revolution</div>	<div>PC</div> <div>Fetal Symposium</div>	<div>S</div> <div>Relaxing in Seattle: Diastology Masterclass with Guideline Updates</div>	<div>E</div> <div>CL</div> <div>Is This Really a Stat Echo?</div>	<div>S</div> <div>Echocardiography in Cerebrovascular Accident</div>
10:00 - 11:30 AM	<div>S</div> <div>Cardio-Oncology: At the Crossroads</div>	<div>PC</div> <div>Controversies</div>	<div>S</div> <div>Debates in Hemodynamics and Valvular Heart Disease</div>	<div>E</div> <div>CL</div> <div>Cardiomyopathy Comes in All Varieties</div>	<div>S</div> <div>Quality Matters</div>
11:30 AM - 1:00 PM	SCIENCE & TECHNOLOGY THEATER: ABBOTT VASCULAR				
1:00 - 2:30 PM	<div>S</div> <div>Multimodality Imaging in Cardiomyopathy</div>	<div>PC</div> <div>Congenitally Corrected Transposition of the Great Arteries</div>	<div>S</div> <div>The Athlete's Heart</div>	<div>S</div> <div>R</div> <div>LVAD: A to Z</div>	<div>S</div> <div>Veterinary Cardiology Symposium</div>



# Congratulations to Dr. Stanton K. Shernan

The National Board of Echocardiography is pleased to recognize our Past President Stanton K. Shernan, MD, FASE as the 2016 recipient of the ASE Outstanding Achievement in Perioperative Echocardiography Award. We applaud his numerous contributions to the field of echocardiography and extend our congratulations on this well-deserved honor.



NATIONAL  
BOARD OF  
ECHOCARDIOGRAPHY, INC.

**7:00 AM - 7:50 AM****CL 3D Echo in Use - Ballroom 6A***Chair: W. Tsang***7:00 AM - 7:15 AM****3D Left Ventricular Quantification***P. Patil***7:15 AM - 7:30 AM****3D Echo in Assessing Mitral Valve Repairability***L. Sugeng***7:30 AM - 7:45 AM****3D Right Ventricular Assessment***P. Collier***7:45 AM - 7:50 AM****Question and Answer****7:00 AM - 7:50 AM****PC CL Case Competition - Ballroom 6C***Chairs: N. Ayres, M. King, W. Lai, N. Silverman***7:00 AM - 7:10 AM****CC-01: Infantile Cardiomyopathy with Coronary Origins from the Appropriate Sinuses: Surprise!****It's Still the Coronaries***T. Churchill***7:10 AM - 7:20 AM****CC-02: Ventricular Pre-excitation: An Unusual Etiology of Ventricular Dysfunction in the Fetus***R. Torok***7:20 AM - 7:30 AM****CC-03: Arrhythmogenic Right Ventricular Dysplasia, an Unusual Presentation and Fulminant Course***H. Rajagopal***7:30 AM - 7:40 AM****CC-04: Unusual Conal Septal Alignment in Transposition of the Great Arteries***A. Ybarra***7:40 AM - 7:50 AM****Question and Answer****7:00 AM - 7:50 AM****CL Cases to Stump the Experts - Ballroom 6E***Chairs: H. Feigenbaum, A. Pearlman, P. Pellikka***7:00 AM - 7:10 AM****Case #1***D. Owens***7:10 AM - 7:20 AM****Case #2***E. Martanto***7:20 AM - 7:30 AM****Case #3***K. Addetia***7:30 AM - 7:40 AM****Case #4***B. Austin***7:40 AM - 7:50 AM****Question and Answer****7:00 AM - 7:50 AM****E CL Stressing the Heart for All Ages - Room 609***Chairs: J. Belcik, M. Main***7:00 AM - 7:15 AM****Role in Valve Disease***E. Shea***7:15 AM - 7:30 AM****Role in CAD***R. Musarra***7:30 AM - 7:45 AM****Role in Pediatrics***K. Nichols***7:45 AM - 7:50 AM****Question and Answer****7:00 AM - 7:50 AM****CL Patient-Centered Care, Time-Efficiency and Difficult Patients: How Do We Find the Right "Humanistic Gain Settings"? - Room 613***Chairs: R. Grimm, P. Knoll***7:00 AM - 7:15 AM****The Anxious Patient***B. Gibbons Schwaegler***7:15 AM - 7:30 AM****Isn't a Limited Exam Good Enough?***G. Lammertin***7:30 AM - 7:45 AM****Quality vs. Quantity?***P. Knoll***7:45 AM - 7:50 AM****Question and Answer**

## 8:00 AM - 9:30 AM

### **S** The Echo Revolution - Ballroom 6A

*Chairs: T. Porter, P. Sengupta*

#### 8:00 AM - 8:15 AM

Miniaturization and Wearable Ultrasound for mHealth Applications

*S. Bhavnani*

#### 8:15 AM - 8:30 AM

Best Organization and Workflow Strategies for Increasing Productivity

*D. Reynolds*

#### 8:30 AM - 8:45 AM

Newer Displays: Fusion Imaging

*V. Mor-Avi*

#### 8:45 AM - 9:00 AM

Automation Using Robotic Ultrasound Imaging

*R. Doukky*

#### 9:00 AM - 9:15 AM

3D Bioprinting for Structural Heart Diseases

*S. Little*

#### 9:15 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **PC** Fetal Symposium - Ballroom 6C

*Chairs: L. Hornberger, R. Michelfelder*

#### 8:00 AM - 8:15 AM

Markers for Fetal Heart Disease in 2016:

Reasons for Referral

*S. Miller*

#### 8:15 AM - 8:30 AM

Early Trimester Fetal Echo

*A. Moon-Grady*

#### 8:30 AM - 8:45 AM

Screening for Fetal Heart Disease with 3D Imaging

*J. Solomon*

#### 8:45 AM - 9:00 AM

Advanced Fetal Imaging and Treatment: MRI and Maternal Oxygen

*S. Peyvandi*

#### 9:00 AM - 9:15 AM

Is Fetal Detection of CHD Changing Outcomes:

A 20 Year Perspective

*J. Rychik*

#### 9:15 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **S** Relaxing in Seattle: Diastology Masterclass with Guideline Updates - Ballroom 6E

*Chairs: O. Smiseth, J. Tajik*

#### 8:00 AM - 8:15 AM

Pathophysiology of Relaxation and Filling Pressures

*J. Ha*

#### 8:15 AM - 8:30 AM

Diastology 101

*E. Donal*

#### 8:30 AM - 8:45 AM

Advanced Measurements (Pulmonary Veins and Intervals)

*M. Garcia*

#### 8:45 AM - 9:00 AM

When It Doesn't Fit, You Must Acquit (What to Do with Discrepant Measurements)

*F. Miller*

#### 9:00 AM - 9:15 AM

Twist and Shout! New Technologies to Assess

Diastolic Function

*T. Marwick*

#### 9:15 AM - 9:30 AM

Question and Answer

## 8:00 AM - 9:30 AM

### **E** **CL** Is This Really a Stat Echo? - Room 609

*Chairs: E. Gill, G. Strachan*

#### 8:00 AM - 8:10 AM

Unwanted Visitors in the Heart

*R. Palma*

#### 8:10 AM - 8:25 AM

Acute Chest Pain

*M. Jankowski*

#### 8:25 AM - 8:45 AM

Is the Heart Floating in Fluid: Tamponade

*M. Orsinelli*

#### 8:45 AM - 9:00 AM

Has the Prosthetic Valve Dehiscenced?

*D. Oliver*

#### 9:00 AM - 9:15 AM

Just in a Car Accident Echo vs. CT

*K. Chin*

#### 9:15 AM - 9:30 AM

Question and Answer

8:00 AM - 9:30 AM

**S** **Echocardiography in Cerebrovascular Accident - Room 6I3**

*Chairs: B. Khandheria, R. McNamara*

**8:00 AM - 8:15 AM**

Does Everyone with Stroke Need a TEE?

*R. McNamara*

**8:15 AM - 8:30 AM**

No RESPECT for the PFO

*H. Wang*

**8:30 AM - 8:45 AM**

LA Appendage Closure for Stroke Prevention

*R. Grimm*

**8:45 AM - 9:00 AM**

Getting Through the Mandate? The Guideline Update

*M. Saric*

**9:00 AM - 9:15 AM**

Do Patients with Atrial Fibrillation and Stroke Require Cardiac Imaging?

*M. Stoddard*

**9:15 AM - 9:30 AM**

Question and Answer

10:00 AM - 11:30 AM

**S** **Cardio-Oncology: At the Crossroads - Ballroom 6A**

*Chairs: J. Banchs, M. Scherrer-Crosbie*

**10:00 AM - 10:15 AM**

Types of Chemotherapy Related Cardiotoxicity

*H. Narayan*

**10:15 AM - 10:30 AM**

Radiation Related Cardiovascular Disease

*D. Upadhyaya*

**10:30 AM - 10:45 AM**

Strain Imaging and CMR Techniques: The Clinical Value

*J. Banchs*

**10:45 AM - 11:00 AM**

I Am A Clinician, Make It Simple: What Thresholds Do I Choose for Therapeutic Interventions?

*J. Liu*

**11:00 AM - 11:15 AM**

Building the Team: The Cardio-Oncology Program

*M. Scherrer-Crosbie*

**11:15 AM - 11:30 AM**

Question and Answer

10:00 AM - 11:30 AM

**PC** **Controversies - Ballroom 6C**

*Chairs: C. Altman, W. Border*

**10:00 AM - 10:30 AM**

Just Say No to MRI: Echo is Adequate to Assess Anatomy and Function

*B. Soriano - Pro*

*A. Dorfman - Con*

**10:30 AM - 11:00 AM**

Path Specimens are So 20th Century and Unnecessary in 2016

*J. Kovalchin - Pro*

*A. Juraszek - Con*

**11:00 AM - 11:30 AM**

TEE is Needed for All Surgeries Using Cardiopulmonary Bypass

*J. Lu - Pro*

*L. Mercer-Rosa - Con*

10:00 AM - 11:30 AM

**S** **Debates in Hemodynamics & Valvular Heart Disease - Ballroom 6E**

*Chairs: J. Thomas, V. Agrawal*

**10:00 AM - 10:30 AM**

Strain Has Incremental Value in Cardio-Oncology and is Ready for Primetime

*J. Plana*

Strain is Not Worth It and Has Too Many Limitations

*S. Mankad*

**10:30 AM - 11:00 AM**

You Can Assess Filling Pressures with Echo/Doppler

*M. Quiñones*

You Need Invasive Hemodynamics to Assess Filling Pressures

*Ž. Popovic*

**11:00 AM - 11:30 AM**

Cardiac MRI is the Gold Standard for Assessing Mitral Regurgitation Severity

*S. Uretsky*

Echo is Currently the Appropriate Standard for Routine Assessment of Mitral Regurgitation Severity

*R. Siegel*



## 10:00 AM - 11:30 AM

### **E** **CL** Cardiomyopathy Comes in All Varieties - Room 609

*Chairs: J. Belcik, R. Freeman*

#### 10:00 AM - 10:15 AM

Oh Baby: Post Partum Cardiomyopathy

*S. Kachline*

#### 10:15 AM - 10:30 AM

Moving in: Infiltrative Disease

*L. Biennu*

#### 10:30 AM - 10:45 AM

Heart Broken: Takotsubo

*K. Edwards*

#### 10:45 AM - 11:00 AM

Overworked: Athletic Heart

*L. Hua*

#### 11:00 AM - 11:15 AM

Hypertrophic Cardiomyopathy

*K. Radigan*

#### 11:15 AM - 11:30 AM

Question and Answer

## 10:00 AM - 11:30 AM

### **S** Quality Matters - Room 613

*Chairs: D. Orsinelli, L. Weinert*

#### 10:00 AM - 10:15 AM

Keeping the Bar High: Maintaining Quality

*M. Bremer*

#### 10:15 AM - 10:30 AM

Establishing Quality in an Academic Echo Lab

*P. Pellikka*

#### 10:30 AM - 10:45 AM

Quality in the Community Echo Lab

*M. Malkowski*

#### 10:45 AM - 11:00 AM

Being Appropriate: Keeping with the Guidelines

*D. Orsinelli*

#### 11:00 AM - 11:15 AM

Achieving IAC Accreditation: How to Get There

*B. Gorman*

#### 11:15 AM - 11:30 AM

Question and Answer

## 1:00 PM - 2:30 PM

### **S** Multimodality Imaging of Cardiomyopathy - Ballroom 6A

*Chairs: M. Desai, S. Nagueh*

#### 1:00 PM - 1:15 PM

Hypertrophic Cardiomyopathy

*A. Woo*

#### 1:15 PM - 1:30 PM

Dilated Cardiomyopathy

*V. Sorrell*

#### 1:30 PM - 1:45 PM

Restrictive Cardiomyopathy

*A. Prado*

#### 1:45 PM - 2:00 PM

Left Ventricular Noncompaction

*M. Desai*

#### 2:00 PM - 2:15 PM

Arrhythmogenic Right Ventricular Dysplasia

*D. Yoerger Sanborn*

#### 2:15 PM - 2:30 PM

Question and Answer

## 1:00 PM - 2:30 PM

### **PC** Congenitally Corrected Transposition of the Great Arteries - Ballroom 6C

*Chairs: R. Canessa, J. Marek*

#### 1:00 PM - 1:15 PM

Fetal Assessment and Counseling: Positive or Negative

*M. Frommelt*

#### 1:15 PM - 1:30 PM

Postnatal Imaging and Determining If or When to Intervene

*S. Morhy*

#### 1:30 PM - 1:45 PM

Longitudinal Follow-up After Surgical Palliation: Systemic Right Ventricle and Left Ventricle

*B. Eidem*

#### 1:45 PM - 2:00 PM

Associated Lesions: Imaging and Impact on Prognosis

*D. Coleman*

#### 2:00 PM - 2:15 PM

What the Fetal Cardiologist Should Have Really Said

*Y. Kim*

#### 2:15 PM - 2:30 PM

Question and Answer

## 1:00 PM - 2:30 PM

### **S** The Athlete's Heart - Ballroom 6E

*Chairs: N. Nanda, M. Wood*

#### **1:00 PM - 1:15 PM**

Effect of Athletic Training on the Heart  
*M. Wood*

#### **1:15 PM - 1:30 PM**

Screening Athletes: Echo, Yes or No?  
*A. Patel*

#### **1:30 PM - 1:45 PM**

Separating Athlete's Heart from HCM  
*D. Phelan*

#### **1:45 PM - 2:00 PM**

Other Thick Walled CM: Zebras  
*K. Klarich*

#### **2:00 PM - 2:15 PM**

Doctor, My Echo Was Abnormal But Can I Still Play for the Seahawks?  
*D. Prior*

#### **2:15 PM - 2:30 PM**

Question and Answer

## 1:00 PM - 2:30 PM

### **S R** LVAD: A-Z - Room 609

*Moderators: J. Estep, D. Orsinelli*

#### **1:00 PM - 1:15 PM**

Echo Determinants of LVAD Candidacy  
*C. Masri*

#### **1:15 PM - 1:30 PM**

LVAD Surveillance Imaging  
*R. Stainback*

#### **1:30 PM - 1:45 PM**

IE-OI: Right and Left Ventricular Remodeling Post-Left Ventricular Assist Device Implantation Using 3-Dimensional Echocardiography and Shape Analysis  
*D. Medvedofsky*

#### **1:45 PM - 2:00 PM**

Detecting LVAD Malfunction  
*A. Nicoara*

#### **2:00 PM - 2:15 PM**

LVAD Weaning/RAMP  
*J. Estep*

#### **2:15 PM - 2:30 PM**

Question and Answer

## 1:00 PM - 2:30 PM

### **PC** Veterinary Cardiology Symposium - Room 613

*Chairs: B. Keene, P. Pibarot*

#### **1:00 PM - 1:20 PM**

The Problem of Scale and Human/Animal Differences  
*R. Hamlin*

#### **1:20 PM - 1:40 PM**

Valve Disease and Heart Failure  
*J. Abbott*

#### **1:40 PM - 2:00 PM**

Ethical Use of Animals in Clinical Research  
*B. Keene*

#### **2:00 PM - 2:20 PM**

Advanced Imaging Technology in Veterinary Cardiology  
*V. Luis-Fuentes*

#### **2:20 PM - 2:30 PM**

Question and Answer



# Who makes ASE strong? YOU

## Recruit others to join and help make ASE even stronger.

**YOU** make ASE the largest voice in cardiovascular imaging in the world.

**YOU** know the value of membership and can share it with your colleagues.

**YOU** can encourage others to join ASE to maintain the influence of the echo community.



**RECRUIT ONE** new member and you **BOTH** receive an ASE branded travel phone charger.



**RECRUIT FIVE OR MORE** new members and your 2017 ASE membership will be **FREE**.



A Member Recruiting Toolkit is available at: [ASEcho.org/MemberReferralProgram](http://ASEcho.org/MemberReferralProgram).

Offer expires August 31, 2016. New member must include the referring member's name on the membership application to receive the ASE referral gift. Referring credit is received once the new member joins ASE. A maximum of one free membership per member can be earned.



**ASE**

American Society of  
Echocardiography

THE ASE FOUNDATION WOULD LIKE TO THANK OUR  
ADVOCATE AND BENEFACTOR TABLE CAPTAINS  
for the 7th Annual  
**RESEARCH AWARDS GALA**

**ADVOCATE SUPPORTERS**

Mayo Clinic, Rochester, MN

National Board of Echocardiography, Raleigh, NC

Edward Gill, MD, FASE, Denver, CO\*

Raymond Stainback, MD, FASE, Houston, TX\*

**BENEFACTOR TABLE CAPTAINS**

Federico Asch, MD, FASE, Washington, DC\*

Jose Banchs, MD, FASE, Houston, TX

Meryl Cohen, MD, FASE, Philadelphia, PA

Greater Houston Echo Society, Houston, TX\*

Rebecca Hahn, MD, FASE, New York, NY

James Kirkpatrick, MD, FASE, Seattle, WA

Allan Klein, MD, FASE, Cleveland, OH

Oregon Health & Science University, Portland, OR

Michael Puchalski, MD, FASE, Salt Lake City, UT

Vera Rigolin, MD, FASE, Chicago, IL

Geoffrey Rose, MD, FASE, Charlotte, NC

Raymond Stainback, MD, FASE, Houston, TX\*

Cynthia Taub, MD, FASE, New York, NY

A. Jamil Tajik, MD, FASE, Milwaukee, WI

Neil Weissman, MD, FASE, Washington, DC\*

Susan Wiegers, MD, FASE, Philadelphia, PA

**Celebrating 20 Years of Funding Cardiovascular Ultrasound Research**

\*Table Co-Captain

# ECHO FLORIDA

# 5<sup>th</sup> ANNUAL



**October 9–11, 2016**

**Preconferences Available October 8**

**Disney's Grand Floridian Resort and Spa  
Walt Disney World®, FL**

**Course Director**

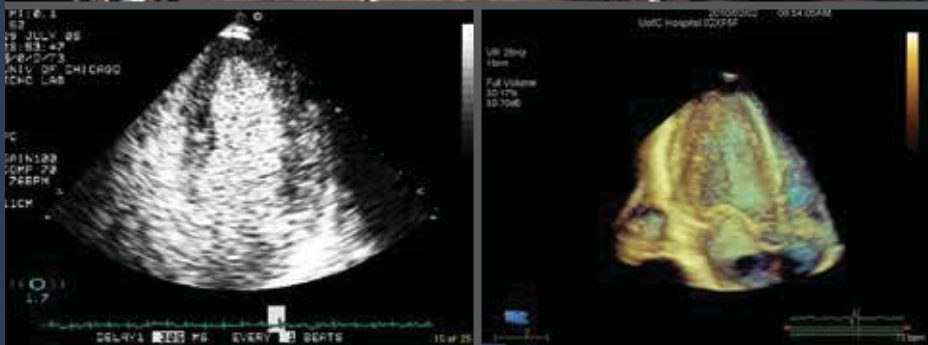
Rebecca T. Hahn, MD, FASE  
Columbia University  
New York, NY

**Course Co-Director**

Gerard P. Aurigemma, MD, FASE  
University of Massachusetts  
Worcester, MA

**Learning Lab Director**

Deborah A. Agler, ACS, RDCS, FASE  
Cleveland Clinic  
Cleveland, OH



Register now at [ASEcho.org/echoflorida](http://ASEcho.org/echoflorida)



Jointly provided by ASE and the ASE Foundation



# Special Awards

The American Society of Echocardiography is pleased to recognize the following award recipients during the ASE Annual Awards Presentations.

## 2016 EDLER LECTURER



ASE's Immediate Past President, **Neil J. Weissman, MD, FASE, Director of Cardiac Ultrasound and Ultrasound Core Laboratories at the Cardiovascular Research Institute at Washington Hospital Center, President of Medstar Health Research**

**Institute, and Professor of Medicine at Georgetown University School of Medicine in Washington, DC** will present "The Future of Echocardiography: Disrupter or Disrupted?" as the 27th Annual Edler Lecture on Sunday morning. Dr. Weissman's research interests include valvular heart disease, left ventricular remodeling, and intravascular imaging. His ultrasound core laboratory has served as a site for more than 150 multi-center trials, including multiple studies on pharmacologic effects of valvular and ventricular function, prosthetic valve assessments, and intracoronary therapies. The Edler Lecture was created in 1990 in honor of the founder of echocardiography, Inge Edler, MD.

## 2016 FEIGENBAUM LECTURE



**Theodore P. Abraham, MBBS, MD, FASE, Director, Johns Hopkins Echocardiography Programs**, will deliver the 17th Annual Feigenbaum Lecture on Monday afternoon during the 2016 Arthur E. Weyman Young Investigator's Award competition. Dr. Abraham will present "Echo Muscles into the

Mechanics Era – Strain Transforms Morphologists into Physiologists" on the use of novel technologies in echocardiography. As the director of the Johns Hopkins Hypertrophic Cardiomyopathy Center of Excellence and the Athletic Heart Clinic, Dr. Abraham founded Heart Hype, a program that screens local high-school athletes for potentially serious heart issues. He holds several patents for image-guided catheters and ultrasound-related devices and is director of the Johns Hopkins Echocardiography Programs. The Feigenbaum Lecture was named in honor of the founder and first president of ASE, Harvey

Feigenbaum, MD, FASE. This lectureship is awarded to a young investigator in recognition of their significant contributions to research in the field of echocardiography and their potential to continue at a high level of achievement.

## LIFETIME ACHIEVEMENT AWARD

The Lifetime Achievement Award recognizes an individual who has had a lifetime of outstanding achievements in the field of cardiovascular ultrasound and has served as a role model through service, research, and teaching. This individual has a career in cardiovascular ultrasound spanning at least 25 years and is recognized at local, national, and international levels.



**Martin G. St. John Sutton, MBBS, FASE, Emeritus Professor CE of Medicine, Hospital of the University of Pennsylvania, Philadelphia, PA**, has been named as the 2016 Physician Lifetime Achievement Award recipient. Dr. St. John Sutton's initial research focused on ventricular mechanics and

fibrosis, and he became a well-known expert on ventricular remodeling in hypertensive, ischemic, and dilated cardiomyopathies. He has authored 320 peer-reviewed journal articles and another 16 book chapters. He is the author or editor of 12 books including two editions of the *Textbook of Adult and Pediatric Echocardiography and Doppler*. Dr. St. John Sutton is a well-loved educator and served 15 years as the Director of the Cardiovascular Fellowship. He is devoted to education and is a role model in the standard he holds himself to and the kindness with which he treats his patients, trainees, and colleagues.

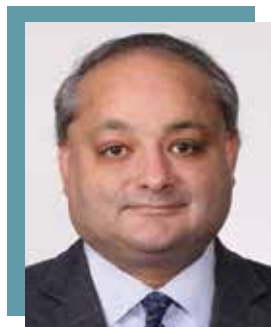
## MERITORIOUS SERVICE AWARD



ASE is pleased to recognize **David H. Wiener, MD, FASE, Director of Clinical Operations, Jefferson Heart Institute, Thomas Jefferson University, Philadelphia, PA**, as the 2016 recipient of the Meritorious Service Award. Dr. Wiener has served as Chair of the ASE Advocacy Committee for the past four years and has served on the committee for the past seven years. It is largely due to his efforts that ASE has become the voice of echocardiography on Capitol Hill and

has achieved so many successes. His clear command of the issues makes him an outstanding advocate for excellence in cardiovascular ultrasound. Dr. Wiener has also served on the Industry Relations Committee, as an Abstract Grader the past two years, and most recently has joined the Public Relations Task Force and the Board of Directors. The ASE Meritorious Service Award recognizes individual members for their substantial and generous efforts to the Society's betterment.

## RICHARD POPP EXCELLENCE IN TEACHING AWARD



Recognized as an extraordinary educator, clinician, and mentor who is nationally and internationally acknowledged as a leader in the field of non-invasive imaging, **Sunil V. Mankad, MD, FASE, Associate Professor of Medicine, Mayo Clinic College of Medicine, Director, Transesophageal**

**Echocardiography and Associate Program Director, Cardiovascular Disease Fellowship Program, Mayo Clinic, Rochester, MN,** has been named the 16th annual recipient of the Richard Popp Excellence in Teaching Award. This award is given in honor of ASE's second president, Richard L. Popp, MD, FASE, and recognizes physicians who epitomize the ideal qualities possessed by a mentor and role model.

## EXCELLENCE IN TEACHING IN PEDIATRICS AWARD



**Lloyd Y. Tani, MD, FASE, Division Chief of Pediatric Cardiology, University of Utah Healthcare and L. George Veasy Presidential Endowed Chair, University of Utah, Salt Lake City, UT,** is being honored as the 2016 Excellence in Teaching in Pediatrics Awardee. Dr. Tani's expertise is focused in the field of

echocardiography, but he is widely known and respected for his extensive knowledge in all areas of pediatric cardiology. He is an exemplary role model for junior faculty, cardiology fellows, sonographers, pediatric residents, and medical students. Established in 2005, this biennial award recognizes ASE members for their exceptional commitment and skill mentoring students, serving as a role model for the profession, and teaching pediatric echocardiography.

## CARDIOVASCULAR SONOGRAPHER DISTINGUISHED TEACHER AWARD



**Maryellen H. Orsinelli, RN, RDCS, FASE, The Ohio State University Wexner Medical Center, Columbus, OH,** has been named the 13th recipient of the Cardiovascular Sonographer Distinguished Teacher Award. Maryellen is recognized for her inspirational energetic approach to creating curricula for

continuing education of sonographers. She encourages everyone to achieve high standards in echocardiography and patient care. The award recognizes an active sonographer instructor who is attentive to cardiovascular sonography professional values and who exhibits values of leadership and dedication to the field of echocardiography for past, current, and future cardiovascular sonographers.

## OUTSTANDING ACHIEVEMENT IN PERIOPERATIVE ECHOCARDIOGRAPHY AWARD



**Stanton K. Shernan, MD, FASE, Director of Cardiac Anesthesia, Brigham and Women's Hospital, Boston, MA,** has been named the 4th recipient of the Outstanding Achievement in Perioperative Echocardiography Award. Dr. Shernan has transcended his specialty and provides

outstanding instruction and lectures to surgeons, cardiologists, and anesthesiologists. He is a Full Professor at Harvard Medical School and is heavily involved with resident and fellow training. The ASE Council on Perioperative Echocardiography recognizes an individual who has made significant clinical, research, or educational contributions to the development of the field of perioperative echocardiography with presentation of this award.

## INTERNATIONAL LEADERSHIP AWARD



**Ricardo E. Ronderos, MD, PhD, FASE, Insitiuto de Cardiologia La Plata, La Plata, Argentina** has been selected to receive the 2016 International Leadership Award. Dr. Ronderos has been a member of ASE since 1996 and FASE since 2010, and is a Past President of the Argentina Federation of

Cardiology (FAC). He is recognized for his outstanding professional achievements, including the creation and leadership of his landmark master class for the past 16 years, and the successful leadership and organization of the recent ASEF/FAC humanitarian event with the indigenous communities in northwest Argentina. This award was established in 2015 as a pathway for recognition of ASE members outside the United States who have already received FASE designation and are deserving of recognition for outstanding contributions to the field of cardiovascular ultrasound through innovations, education, or leadership.

## HONORARY FASE



Each year ASE selects one or more of our colleagues to receive the special designation of Honorary Fellow of the American Society of Echocardiography. This honor is given to individuals outside the United States who have made significant contributions to the field of cardiovascular ultrasound

or have played a strong role in building relationships with the Society. **Pham Gia Khai, MD, PhD, Vietnam National Heart Institute, Hanoi, Vietnam**, has been selected as the 2016 Honorary FASE recipient. Noted for pioneering cardiac ultrasound and interventional cardiology in Vietnam, Dr. Khai is ASE's first Honorary FASE recipient from that country. Dr. Khai will be honored during the ASE awards presentations on Sunday, June 12th.

The following Awards and Grants are supported by the ASE Education and Research Foundation. Fostering the next generation of cardiovascular ultrasound professionals.



# ASE Foundation

## 2016 ARTHUR E. WEYMAN YOUNG INVESTIGATOR'S AWARD COMPETITION FINALISTS

This annual competition is supported by the National Board of Echocardiography (NBE) in honor of its first president, Arthur E. Weyman, MD, FASE. These investigators will present their research during the 2016 Arthur E. Weyman Young Investigators Award (YIA) Competition and 17th Annual Feigenbaum Lecture plenary from 3:30 – 5:00 PM on Monday, June 13 in Ballroom 6E on Level 6. After the presentations, the winner will be selected by a panel of echo experts.

- » Hiroto Utsunomiya, MD, PhD, Cedars-Sinai Heart Institute, Los Angeles, CA – “Functional Tricuspid Regurgitation Due to Chronic Atrial Fibrillation: A 3-dimensional Transesophageal Echocardiography Study”
- » Shahryar M. Chowdhury, MD, Medical University of South Carolina, Charleston, SC – “Novel Echocardiographic Measures of Left Ventricular Diastolic Stiffness in Children: A Validation Study”
- » Adam Castano, MD, Columbia University, Division of Cardiology, New York, NY – “Echocardiographic Predictors of Transthyretin Cardiac Amyloidosis among Patients with Severe Aortic Stenosis Undergoing Transcatheter Aortic Valve Replacement”
- » Ines Sherifi, MD, MSc, Mount Sinai Medical Center, New York, NY – “Discovery of Multidimensional Aortic Stenosis Subphenotypes Using Unsupervised Cluster Analysis of Clinical and Imaging Data”

## 2016 SONOGRAPHER INVESTIGATOR'S AWARD COMPETITION FINALISTS

Created to highlight sonographer-led research, this competition recognizes non-physicians who served as the primary investigator on their project of original work. These investigators will make a moderated poster presentation of their research from 12:00 – 1:15 PM on Sunday, June 12 in the Exhibit & Poster Hall.

- » Amie Majerus, BS, ACS, RDCS, FASE, University of Colorado Health, Aurora – “Mid-systolic, Inner Edge to Inner Edge Echocardiographic Measurements of the Aortic Root and Ascending Aorta More Closely Approximate Those Made by Computed Tomography Than End-diastolic, Leading Edge to Leading Edge Measurements”



- » Weimin (Allen) He, RDCS, Mazankowski Heart Institute in University of Alberta, Edmonton, AB, Canada – “Variability of Left Ventricle Volume and Ejection Fraction Measurements Using Contrast Echocardiography: The Influence of the LV Length Measurements in a Large Cohort of Patients During Monitoring Cardiotoxic Effects of Chemotherapy”
- » Mary Craft, RDCS, FASE, University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE – “Experience with 4DRV 2.0 Analysis Algorithm for Right Ventricular Quantification in Pediatric and Congenital Heart Disease”
- » Angela Malone, RDCS, RVT, Spectrum Health, Grand Rapids, MI – “Cost Effectiveness of Twenty-four Hour Echocardiography Coverage”

## 2016 ASE FOUNDATION TOP 25

The presentation of original research from around the world is an integral component of ASE’s annual meeting. New this year, a special group of investigators were selected as the ASE Foundation’s inaugural Top 25. These early career abstract presenters were selected by the Abstract Chairs based on the scientific merit of their research projects, and in exchange for their involvement at various events throughout the meeting, were awarded \$1,000 from the Foundation for travel expenses.

- » Chadi Ayoub, MD, Mayo Clinic, Rochester, MN
- » Jorge Betancor, MD, Cleveland Clinic, Cleveland, OH
- » Mohammed A. Chowdhury, MD, University of Toledo, Toledo, OH
- » Merav Dvir-Orgad, MD, BC Women and Children’s Hospital, Vancouver, BC, Canada
- » Eleonora Avenatti, MD, Houston Methodist Hospital, Houston, TX
- » Waddy Gonzalez, MD, Montefiore Medical Center, Bronx, NY
- » Serge C. Harb, MD, Cleveland Clinic Foundation, Cleveland, OH
- » Lazaro E. Hernandez, MD, Joe DiMaggio Children’s Hospital, Hollywood, FL
- » In-Chang Hwang, MD, Seoul National University Bundang Hospital, Seongnam, Republic of Korea
- » Angela M. Kelle, MD, Mayo Clinic, Rochester, MN
- » Raj Khandwalla, MD, Cedars Sinai Heart Institute, Los Angeles, CA
- » Srikanth Koneru, MD, Cleveland Clinic Foundation, Cleveland, OH

- » Soultana Kourtidou, MD, MSc, Seattle Children’s Hospital, Seattle, WA
- » Hongyun Liu, MD, Johns Hopkins HCM Center of Excellence, Baltimore, MD
- » Dai-Yin Lu, MD, Johns Hopkins University, Baltimore, MD
- » Angela B. Malone, RDCS, RVT, Spectrum Health, Grand Rapids, MI
- » Diego Medvedofsky, MD, University of Chicago, Chicago, IL
- » Donna Chelle V. Morales, DO, Morristown Medical Center, Morristown, NJ
- » Monica Mukherjee, MD, FASE, Johns Hopkins University, Baltimore, MD
- » Bradley Peltzer, MD, Montefiore Medical Center/Albert Einstein College of Medicine, Bronx, NY
- » Shagun Sachdeva, MBBS, Children’s Hospital of Wisconsin, Milwaukee, WI
- » Andreas Schuler, MD, University of Washington, Seattle, WA
- » Lindsay Urbinelli, MD, Cincinnati Children’s Hospital, Cincinnati, OH
- » Marija Vukicevic, PhD, Methodist Hospital, Houston, TX
- » Guilherme S. Yared, MD, Johns Hopkins Hospital, Baltimore, MD

## 2016 TOMTEC INNOVATOR RESEARCH TRAVEL GRANT

**Andrea Montero, MD from The Children’s Hospital of Philadelphia in Philadelphia, PA** is the recipient of the 2016 TOMTEC Innovator Research Travel Grant. Supported by a grant to the ASE Foundation from TOMTEC IMAGING SYSTEMS GMBH, this annual award is given to assist a promising young researcher presenting his/her work at the ASE Scientific Sessions. For more than 20 years, TOMTEC has driven innovations in echocardiography, and the ASE Foundation thanks them for investing in the young researchers who will continue to drive the field forward. Dr. Montero received \$4,000 from the Foundation to support travel expenses.

## 2016 ALAN D. WAGGONER STUDENT SCHOLARSHIP AWARDS

The Alan D. Waggoner Student Scholarship program was established in 2001 in recognition of Mr. Waggoner’s professional achievements and service to

ASE. Funding from the ASE Foundation provides a limited number of \$1,000 scholarship awards for students enrolled in a cardiac ultrasound program accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in the United States or by an equivalent Canadian or external ultrasound program. Also included with each scholarship award is complimentary registration for the recipient to attend the ASE 2016 Scientific Sessions and limited travel support. This year's recipients were chosen from a large number of students who were nominated by their program directors. The 2016 scholarship award recipients will be recognized during ASE's Annual Awards Presentation and Edler Lecture from 8:00 – 9:30 AM, Sunday, June 12 in Ballroom 6E on Level 6.

- » Beth Anderson – UAMS College of Health Professionals, Little Rock, AR
- » Ellen Garcia – Community Regional Medical Center, DMS Program, Fresno, CA
- » Abigail Kaminski – Aurora St. Luke's Medical Center, School of DMS, Milwaukee, WI
- » Pamela Keebler – South Hills School of Business and Technology, State College, PA
- » Deanna Knox – Bellevue College, DMS Program, Bellevue, WA
- » Gina Lamonaca – St. Francis Hospital and Medical Center, CVT Sonography Program, Hartford, CT
- » Ashley M. Maes – Bellevue College, DMS Program, Bellevue, WA
- » Melissa McKnight – El Centro College, CVT Sonography Program, Dallas, TX
- » Erin Monroe – Mayo School of Health Sciences Echocardiography Program, Rochester, MN
- » Ha Ni Nguyen – Louisiana State University Health Sciences Center, CVT Sonography Program, New Orleans, LA
- » Alexis Pentheros – Sanford Brown College, CVT Sonography Program, Dallas, TX
- » Jason Pereira – St. Francis Hospital and Medical Center, CVT Sonography Program, Hartford, CT
- » Edward Pierson, Lackawanna College, DMS Program, Scranton, PA
- » Lindsay Provenzano – Johns Hopkins Hospital, DMS Program, Baltimore, MD
- » Bobbi Jo Schlick – Mayo School of Health Sciences Echocardiography Program, Rochester, MN
- » Michael Silverman – Johns Hopkins Hospital, DMS Program, Baltimore, MD

## 2016 ULTRAECCHO, LTD. CARDIOVASCULAR SONOGRAPHER STUDENT TRAVEL GRANT

This award, supported by a grant to the ASE Foundation, is presented to a sonographer student enrolled in a CAAHEP accredited cardiac ultrasound program. This grant provides funding to assist a student to attend the annual Scientific Sessions or other ASE-sponsored educational courses. The 2016 student travel grant has been awarded to **Kendra Harper, Johns Hopkins Sonography Training Program, Baltimore, MD**. This award will be recognized during the Council on Cardiac Sonographer Business Meeting, on Saturday, June 11 at 8:00 AM in Room 609.

## 2016 FEIGENBAUM CARDIOVASCULAR SONOGRAPHER STUDENT TRAVEL GRANT

This award is supported by a grant to the ASE Foundation from Elsevier Inc. to honor Dr. Harvey Feigenbaum's commitment and tenure as the former *Journal of the American Society of Echocardiography* (JASE) Editor for 20 years. It is presented to a sonographer student enrolled in a CAAHEP accredited cardiac ultrasound program. This grant provides funding to assist a student to attend the Scientific Sessions or other ASE sponsored educational courses. The 2016 student travel grant has been awarded to **Kelsey Bogen, St. Francis Hospital and Medical Center, DMS Program, Hartford, CT**. This award will be recognized during the Council on Cardiac Sonographer Business Meeting, on Saturday, June 11 at 8:00 AM in Room 609.

## 2016 COUNCIL TRAVEL GRANT AWARDS

The ASE Foundation sponsors Council Travel Grant Awards to fellows, trainees, and sonographers to fund their attendance at the Scientific Sessions. These travel grants are part of an ongoing effort by the Foundation, with the assistance of the Council Steering Committees, to encourage trainees in cardiovascular specialties to focus on the respective echocardiography sub-specialty. In addition, the Council Steering Committees hope to provide interested fellows with a deeper understanding of the imaging field and facilitate the development of meaningful mentoring opportunities for trainees with established imaging faculty.

### Council On Pediatric And Congenital Heart Disease Travel Grant Award Recipients

- » Carolyn Wilhelm, MD, Nationwide Children's Hospital, Columbus, OH
- » Rachel Torok, MD, Duke University Medical Center, Durham, NC

### Council On Vascular Ultrasound Travel Grant Award Recipients

- » Olivia Yau, MSc Candidate, Experimental Medicine-Queens University, Kingston, ON, Canada



### Council On Perioperative Echocardiography Travel Grant Award Recipients

- » Lucy Safi, DO, Massachusetts General Hospital, Boston, MA
- » Daniel Walsh, MD, University of Nebraska Medical Center, Omaha, NE

### Council On Cardiovascular Sonography Travel Grant Awards

- » Lisa Bienvenu, RDCS, ACS, FASE, Ochsner Medical Center, New Orleans, LA
- » Merissa Gatti, BS, RDCS, St. Thomas West Hospital, Nashville, TN

## ANNOUNCING TWO NEW AWARDS TO BE PRESENTED AT ASE 2017



The **Katanick Scholarship Award** will be given annually and includes a \$1,000 student scholarship for the highest ranking student sonographer candidate nominated for ASEF scholarship awards and up to \$500 in travel reimbursement to attend the ASE Scientific Sessions. This award was named

to honor the legacy of Sandy Katanick, RN, RVT, CAE, who retired as CEO of the Intersocietal Accreditation Commission after over 25 years of service to the field. Dr. Vera Rigolin, ASE's Vice President, recognized Ms. Katanick's service in February 2016 at an Intersocietal Accreditation Commission (IAC) event and announced that this Award would be created in her name.



The ASE Foundation is pleased to announce the **Adams Global Service Award** in honor of David B. Adams, ACS, RCS, RDCS, FASE, Duke University Medical Center, Durham, NC. This \$1,500 travel grant award will be presented on an annual basis to one sonographer mission volunteer, beginning in

2017. Mr. Adams has contributed to the success of the ASEF humanitarian missions with his international mission experience, clinical skills, and leadership abilities. He has announced his retirement from Duke beginning in November 2016. Mr. Adams will be recognized at the ASE Awards Presentations, Announcements, and Edler Lecture session on Sunday, June 12, 8:00 – 9:00 a.m. in Ballroom 6E.

Both of these awards will be presented for the first time in June 2017.

# Excellence *in* ECHOCARDIOGRAPHY EDUCATION

## 2016 Courses

### JUNE

#### 27th Annual Scientific Sessions

June 10-14, 2016 | Seattle, WA

Washington State Convention Center

*Jointly provided by ASE and the ASE Foundation*

### JULY

#### 3rd Annual International Multimodality Cardiovascular Imaging Update of SONECOM

July 21-23, 2016 | Puebla, Mexico

Intercontinental President Hotel

*Provided by The National Society of Echocardiography  
of Mexico and endorsed by ASE*

### AUGUST

#### ECHONAGPUR 2016

August 5-7, 2016 | Nagpur, India

Hotel Centre Point

*Organized by Nagpur Echo Summit and Cardiological  
Society of India and endorsed by ASE*

### SEPTEMBER

#### 38th Annual Echo Northwestern Conference

September 17-19, 2016 | Chicago, IL

Northwestern Memorial Hospital

*Provided by Northwestern University Feinberg School  
of Medicine and held in cooperation with ASE.*

### OCTOBER

#### 5th Annual Echo Florida

October 9-11, 2016 | Walt Disney World®, FL

Disney's Grand Floridian Resort & Spa

*Jointly provided by ASE and the ASE Foundation*

#### 2nd Annual Echo ASE ASEAN

October 21-23, 2016 | Bangkok, Thailand

Conrad Bangkok

*Jointly provided by ASE and ASE Foundation*

### NOVEMBER

#### Echocardiography 2016: Perioperative and Critical Care Medicine

November 5-8, 2016 | Naples, FL

Ritz Carlton Beach Resort

*Provided by the University of Nebraska Medical Center  
and held in cooperation with ASE.*

## 2017 Courses

### JANUARY

#### 27th Annual Echo Hawaii

January 23-27, 2017 | Kohala Coast, HI

Hapuna Beach Prince Hotel

*Jointly provided by ASE and the ASE Foundation*

### FEBRUARY

#### 30th Annual State-of-the-Art

#### Echocardiography: Echo Southwest

February 18-21, 2017 | Tucson, AZ

Hilton Tucson El Conquistador Golf & Tennis Resort

*Jointly provided by ASE and the ASE Foundation*

### APRIL

#### 18th Annual ASCeXAM/ReASCE Review Course

April 29 - May 2, 2017 | Philadelphia, PA

Loews Philadelphia Hotel

*Jointly provided by ASE and the ASE Foundation*

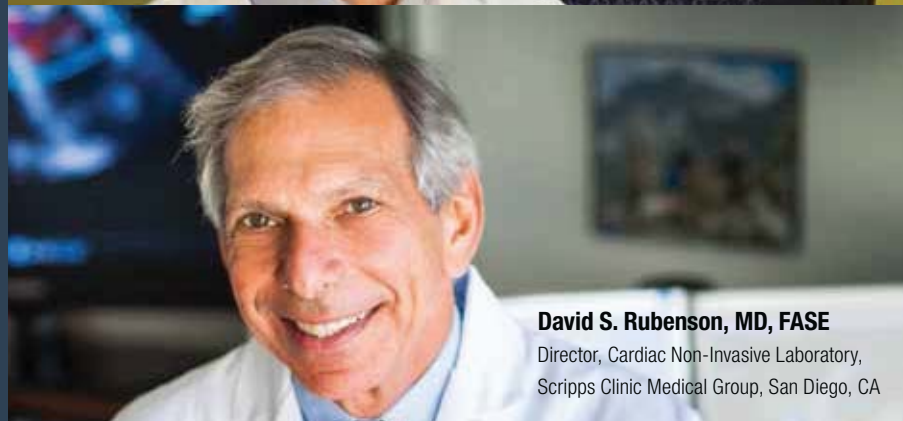
**Be sure to participate in these  
educational offerings!**

**Discounted rates for ASE members.**

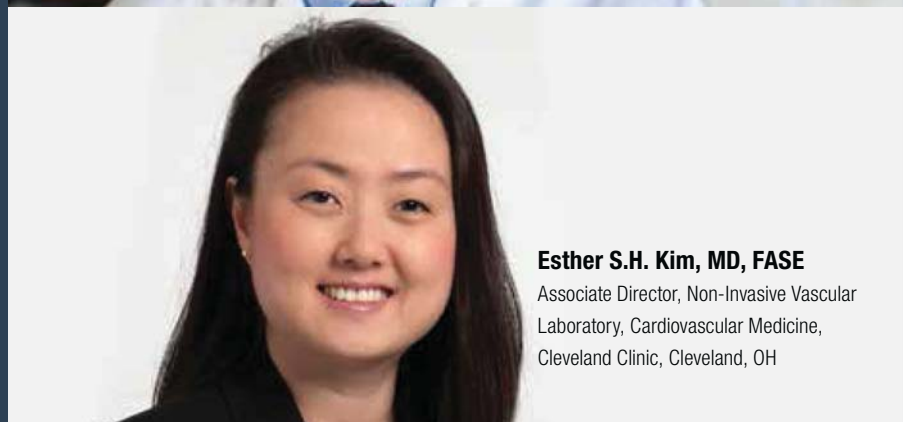
**To learn more and register, visit us  
at [ASEcho.org/education](http://ASEcho.org/education).**



**Aldo Prado, MD, FASE**  
Chief of Echocardiography Department,  
Centro Privado de Cardiología,  
Tucumán Argentina



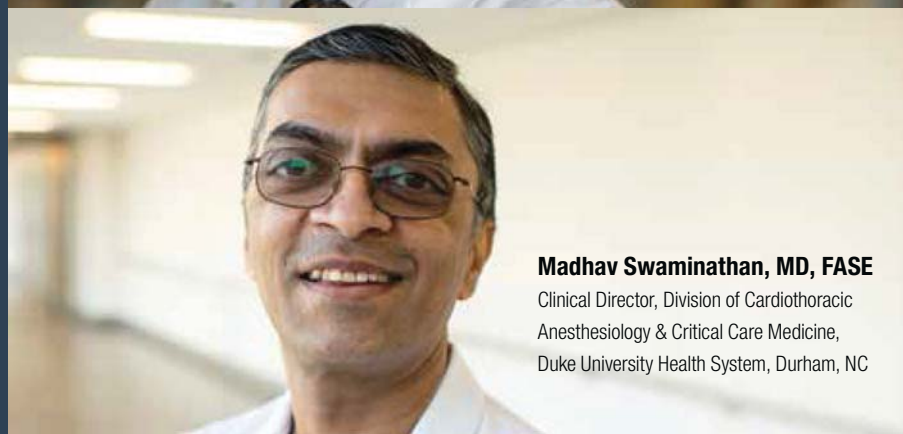
**David S. Rubenson, MD, FASE**  
Director, Cardiac Non-Invasive Laboratory,  
Scripps Clinic Medical Group, San Diego, CA



**Esther S.H. Kim, MD, FASE**  
Associate Director, Non-Invasive Vascular  
Laboratory, Cardiovascular Medicine,  
Cleveland Clinic, Cleveland, OH



**Colin K. Grissom, MD, FASE**  
Critical Care Medicine, Shock Trauma ICU,  
Intermountain Medical Center, Murray, UT



**Madhav Swaminathan, MD, FASE**  
Clinical Director, Division of Cardiothoracic  
Anesthesiology & Critical Care Medicine,  
Duke University Health System, Durham, NC

# Experts in the field hold the designation of FASE

Want to achieve a FASE designation?  
A variety of specialists, in addition to cardiologists, can now meet application criteria. Apply at **ASEcho.org/FASE**.

Visit the **FASE Lounge in Room 616**

Saturday, June 11..... 9:00 AM – 4:00 PM

Sunday, June 12..... 9:00 AM – 4:00 PM

Monday, June 13..... 9:00 AM – 4:00 PM

Tuesday, June 14..... 9:00 AM – 2:00 PM



American Society of Echocardiography –  
40 years of representing the best in the field.

# Original Science & Clinical Cases Presentation Schedule

## SUNDAY, JUNE 12TH, 2016

### **R** SONOGRAPHER INVESTIGATOR'S AWARD COMPETITION (SIA)

Presented: 12:00 – 1:15 PM

Page: 72

### EXHIBIT & POSTER HALL

#### TOPICS

Outcomes / Comparative Effectiveness .... SIA-1

Contrast Echocardiography  
and New Technology .....SIA-2

3D Echocardiography.....SIA-3

Value of Echocardiography  
(Quality and Cost) .....SIA-4

### **R** POSTER SESSION 1 (P1)

Presented: 9:00 AM – 4:00 PM

Pages: 77-92

### EXHIBIT & POSTER HALL

Meet the Investigators: 12:00 – 1:15 PM

Moderated Poster Session: 12:00 – 1:15 PM

#### TOPICS

Pediatric and Adult Congenital  
Heart Disease ..... PI-01 through PI-76

Intraprocedural Echocardiography  
(Operating Room and Interventional  
Lab) / TEE ..... PI-77 through PI-93

Valvular Heart Disease... PI-94 through PI-137

Outcomes / Comparative  
Effectiveness ..... PI-138 through PI-152

Value of Echocardiography  
(Quality and Cost) ..... PI-153 through PI-167

Contrast Echocardiography  
and New Technology ..... PI-168 through PI-192

Vascular Disease ..... PI-193 through PI-202

Echocardiography in SOE / Arrhythmias /  
Atrial Function ..... PI-203 through PI-212

# MONDAY, JUNE 13, 2016

## **R** POSTER SESSION 2 (P2)

Presented: 9:00 AM – 4:00 PM

Pages: 93–108

### EXHIBIT & POSTER HALL

Meet the Investigators: 12:00 – 1:15 PM

Moderated Poster Session: 12:00 – 1:15 PM

#### TOPICS

3D Echocardiography ..... P2-01 through P2-25

Echocardiography in Systemic Disease  
(DM, HTN, Obesity, Cancer) / Pericardial /  
Primary Myocardial ..... P2-26 through P2-62

Doppler /  
Hemodynamics ..... P2-63 through P2-88

Ischemic Heart Disease ... P2-89 through P2-98

Emerging Use of Echocardiography / Point of  
Care Echocardiography .. P2-99 through P2-112

Ventricular Function /  
Myocardial Mechanics.. P2-113 through P2-160

Clinical Cases: Cardiovascular  
Ultrasound Imaging in Diagnosis,  
Clinical Decision-Making, and  
Patient Management.... P2-161 through P2-219

## **R** **PC** PEDIATRIC ORAL ABSTRACTS (PC)

Presented: 1:15 – 3:30 PM

Page: 75

Ballroom 6C

#### TOPICS

Pediatric and Adult Congenital  
Heart Disease ..... PC-01 through PC-06

## **R** **S** ARTHUR E. WEYMAN YOUNG INVESTIGATOR'S AWARD COMPETITION (YIA)

3:30 – 5:00 PM

Page: 73

Ballroom 6E

#### TOPICS

3D Echocardiography ..... YIA-1

Pediatric and Adult Congenital  
Heart Disease ..... YIA-2

Echocardiography in Systemic Disease  
(DM, HTN, Obesity, Cancer) /  
Pericardial / Primary Myocardial ..... YIA-3

Valvular Heart Disease ..... YIA-4



# TUESDAY, JUNE 14, 2016

## PC CL CASE COMPETITION (CC)

7:00 – 7:50 AM

Page: 76

Ballroom 6C

### TOPICS

Clinical Cases: Cardiovascular  
Ultrasound Imaging in Diagnosis,  
Clinical Decision-Making, and Patient  
Management ..... CC-01 through CC-04

## E R ORAL ABSTRACT IN LVAD: A TO Z (IE)

1:00 – 2:30 PM

Page: 74

Room 609

### TOPIC

3D Echocardiography ..... IE-01



# 2016 Abstract Graders

ASE sincerely thanks the following volunteers for their time reviewing the 2016 abstract submissions.

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# Research Award Competitions

## **R** 2016 SONOGRAPHER INVESTIGATOR'S AWARD COMPETITION (SIA)

The ASE Foundation congratulates this year's finalists.

Poster Presentations: Saturday, June 11 through Monday, June 13

Oral Competition Presentations: Sunday, June 12, 12:00 – 1:15 PM

Exhibit & Poster Hall

Judges: G. Rose, S. Mankad, D. Agler, M. Bremer

### TOPICS

Outcomes / Comparative Effectiveness .... **SIA-1**

Contrast Echocardiography  
and New Technology ..... **SIA-2**

3D Echocardiography..... **SIA-3**

Value of Echocardiography  
(Quality and Cost) ..... **SIA-4**

*Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor; 3) Stock Ownership (not including stocks owned in a managed portfolio); 4) Research Grant (as principal investigator); 5) Employment Affiliation; 6) Royalty/Patents*

### **SIA-1**

**Mid-systolic, Inner Edge to Inner Edge Echocardiographic Measurements of the Aortic Root and Ascending Aorta More Closely Approximate Those Made by Computed Tomography Than End-diastolic, Leading Edge to Leading Edge Measurements**

Amie Majerus<sup>1</sup>, Jeremy Nicolarsen<sup>1</sup>, Sonali Patel<sup>2</sup>, Robert Quaife<sup>3</sup>, Amber Khanna<sup>1</sup>, Ernesto Salcedo<sup>1</sup>. <sup>1</sup>University of Colorado Health, Aurora, CO; <sup>2</sup>Children's Hospital Colorado, Aurora, CO; <sup>3</sup>University of Colorado Anschutz Medical Campus, Aurora, CO

Disclosures: R. Quaife – 4 (Philips Ultrasound); E. Salcedo – 4 (Philips Ultrasound)

Presented by Amie Majerus, BS, ACS, RDCS, FASE

### **SIA-2**

**Variability of Left Ventricle Volume and Ejection Fraction Measurements Using Contrast Echocardiography: The Influence of the LV Length Measurements in a Large Cohort of Patients During Monitoring Cardiotoxic Effects of Chemotherapy**  
Weimin (Allen) He<sup>1</sup>, Eila Mirhadi<sup>1,2</sup>, Riitta Paakkanen<sup>1</sup>, Edith Pituskin<sup>3</sup>, Ian Paterson<sup>1</sup>, Jonathan Choy<sup>1</sup>, Harald Becher<sup>1</sup>. <sup>1</sup>Mazankowski Heart Institute in University of Alberta, Edmonton, AB, Canada; <sup>2</sup>University of Alberta Hospital, Edmonton, AB, Canada; <sup>3</sup>Cross Cancer Institute, Edmonton, AB, Canada

Presented by Weimin (Allen) He, RDCS

### **SIA-3**

**Experience with 4DRV 2.0 Analysis Algorithm for Right Ventricular Quantification in Pediatric and Congenital Heart Disease**

Mary Craft<sup>1</sup>, Peter Woolman<sup>1</sup>, Ling Li<sup>1</sup>, Scott Fletcher<sup>1</sup>, Anke Sedlmeier<sup>2</sup>, Rolf Baumann<sup>2</sup>, Berthold Klas<sup>2</sup>, Shelby Kutty<sup>1</sup>. <sup>1</sup>University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE; <sup>2</sup>TomTec Imaging Systems, Unterschleissheim, Germany

Disclosures: A. Sedlmeier – 5 (TomTec); R. Baumann – 5 (TomTec); B. Klas – 5 (TomTec)

Presented by Mary Craft, RDCS, FASE

### **SIA-4**

**Cost Effectiveness of Twenty-four Hour Echocardiography Coverage**

Angela B. Malone, Lenora L. Eberhart, David E. Langholz. Spectrum Health, Grand Rapids, MI

Presented by Angela Malone, RDCS, RVT

**R S 2016 ARTHUR E. WEYMAN YOUNG  
INVESTIGATOR'S AWARD COMPETITION  
(YIA)**

The ASE Foundation congratulates this year's finalists, and thanks the National Board of Echocardiography™ (NBE) for its continued support of this annual competition.

Poster Presentations: Saturday, June 11 through Monday, June 13

Exhibit & Poster Hall

Oral Competition Presentations: Monday, June 13  
3:30 PM – 5:00 PM

Ballroom 6E

Judges: G. Rose, S. Mankad, G. Habib, S. Nakatani, L. Mertens,  
A. Weyman, T. Porter, S. Wieggers

**TOPICS**

**3D Echocardiography..... YIA-1**

**Pediatric and Adult Congenital  
Heart Disease..... YIA-2**

**Echocardiography in Systemic Disease  
(DM, HTN, Obesity, Cancer) /  
Pericardial / Primary Myocardial..... YIA-3**

**Valvular Heart Disease..... YIA-4**

*Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor; 3) Stock Ownership (not including stocks owned in a managed portfolio); 4) Research Grant (as principal investigator); 5) Employment Affiliation; 6) Royalty/Patents*

**YIA-1**

**Functional Tricuspid Regurgitation Due to Chronic Atrial Fibrillation: A 3-dimensional Transesophageal Echocardiography Study**

Hiroto Utsunomiya, Yuji Itabashi, Hirotsugu Mihara, Sayuki Kobayashi, Javier Berdejo, Takahiro Shiota. Cedars-Sinai Heart Institute, Los Angeles, CA

Disclosures: T. Shiota – 1 (Philips Ultrasound)

Presented by Hiroto Utsunomiya, MD, PhD

**YIA-2**



**Novel Echocardiographic Measures of Left Ventricular Diastolic Stiffness in Children: A Validation Study**

Shahryar M. Chowdhury<sup>1</sup>, Ryan J. Butts<sup>1</sup>, Anthony M. Hlavacek<sup>1</sup>, Carolyn L. Taylor<sup>1</sup>, Karen S. Chessa<sup>1</sup>, Varsha Bandisode<sup>1</sup>, Girish S. Shirali<sup>2</sup>, Arni Nutting<sup>1</sup>, George H.

Baker<sup>1</sup>. <sup>1</sup>Medical University of South Carolina, Charleston, SC; <sup>2</sup>Children's Mercy Hospital, Kansas City, MO

Presented by Shahryar M. Chowdhury, MD

**YIA-3**

**Echocardiographic Predictors of Transthyretin Cardiac Amyloidosis among Patients with Severe Aortic Stenosis Undergoing Transcatheter Aortic Valve Replacement**

Adam Castano, Nadira Hamid, David Narotsky, Omar K. Khalique, Rachel Easterwood, Susheel Kodali, Sabahat Bokhari, Mathew S. Maurer, Rebecca T. Hahn. Columbia University, Division of Cardiology, New York, NY

Disclosures: S. Kodali – 2 (Edwards Lifesciences, Medtronic); M. S. Maurer – 2 (Pfizer Inc., Alnylam Pharmaceuticals Inc., Prothena Inc., ISIS Pharmaceuticals); R. T. Hahn – 5 (Core Labs for the PARTNER Trial)

Presented by Adam Castano, MD

**YIA-4**

**Discovery of Multidimensional Aortic Stenosis Subphenotypes Using Unsupervised Cluster Analysis of Clinical and Imaging Data**

Ines Sherifi, Alaa M. Omar, Pritha Subramanyam, Naman Barman, Farooq Chaudhry, Anelechi Anyanwu, Jason Kovacic, Samin Sharma, Annapoorna Kini, Partho P. Sengupta. Mount Sinai Medical Center, New York, NY

Presented by Ines Sherifi, MD, MSc



# Oral Abstract Presentations

## **R** YOUNG INVESTIGATOR'S AWARD WINNERS FROM EUROPEAN ASSOCIATION OF CARDIOVASCULAR IMAGING & JAPANESE SOCIETY OF ECHOCARDIOGRAPHY MEETINGS

Poster Presentations: Saturday, June 11 through Monday,  
June 13

Exhibit & Poster Hall

Moderated Poster Presentations: Monday, June 13, 12:00  
pm – 1:15 pm

Exhibit & Poster Hall

Moderators: A. Weyman, G. Rose

### TOPIC

Doppler / Hemodynamics ..... **EUR-I**

3D Echocardiography..... **JSE-I**

*Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor; 3)  
Stock Ownership (not including stocks owned in a managed portfolio); 4)  
Research Grant (as principal investigator); 5) Employment Affiliation; 6)  
Royalty/ Patents*

### **EUR-I – 2015 EACVI YIA WINNER**

#### **Ultrafast Doppler Imaging of Intramyocardial Coronary Arteries**

David Maresca<sup>1</sup>, Mafalda Correia<sup>1</sup>, O Villemain<sup>1</sup>, B  
Ghaleh<sup>2</sup>, Mickael Tanter<sup>1</sup> and Mathieu Pernot<sup>1</sup>. <sup>1</sup>Institut  
Langevin, ESPCI ParisTech, Paris, France; <sup>2</sup>Université  
Paris Est Créteil et Ecole Nationale Vétérinaire d'Alfort,  
Maisons-Alfort, France

Presented by David Maresca, PhD

### **JSE-I – 2016 JSE YIA WINNER**

#### **Left Atrial Dilatation Effect Mitral Annulus Geometry and Mitral Regurgitation in Patients with Atrial Fibrillation: Insights from Three-Dimensional Transesophageal Echocardiography**

Yuki Izumi, Kanako Hagiwara, Aya Yoshinaga, Yukichi  
Tokita, Masatomo Yoshikawa, Hiroshi Honma, Wataru  
Shimizu. Department of Cardiovascular Medicine Nippon  
Medical School, Tokyo, Japan

Presented by Yuki Izumi, MD

## **E R** LVAD: A TO Z (IE)

Presented: Tuesday, June 14

1:00 pm – 2:30 pm

Room 609

### TOPIC

3D Echocardiography ..... **IE-OI**

*Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor; 3)  
Stock Ownership (not including stocks owned in a managed portfolio); 4)  
Research Grant (as principal investigator); 5) Employment Affiliation; 6)  
Royalty/ Patents*

### **IE-OI**

#### **Right and Left Ventricular Remodeling Post- left Ventricular Assist Device Implantation Using 3-dimensional Echocardiography and Shape Analysis**

Diego Medvedofsky<sup>1</sup>, Eric Kruse<sup>1</sup>, Francesco Maffessanti<sup>2</sup>,  
Karima Addetia<sup>1</sup>, Victor Mor-Avi<sup>1</sup>, Gabriel Sayer<sup>1</sup>,  
Sirtaz Adatya<sup>1</sup>, Nitasha Sarswat<sup>1</sup>, Gene Kim<sup>1</sup>, Takeyoshi  
Ota<sup>1</sup>, Valluvan Jeevanandam<sup>1</sup>, Nir Uriel<sup>1</sup>, Roberto M.  
Lang<sup>1</sup>. <sup>1</sup>University of Chicago, Chicago, IL; <sup>2</sup>Center for  
Computational Medicine in Cardiology CCMC, Institute  
of Computational Sciences, Università della Svizzera  
italiana, Lugano, Switzerland

Disclosures: V. Jeevanandam – 2 (Thoratec, ReliantHeart,  
HeartWare); N. Uriel – 2 (HeartWare, Thoratec,  
HeartWare, Abiomed, Medtronic); R. M. Lang – 1  
(Philips)

Presented by Diego Medvedofsky, MD

# Pediatric Oral Abstracts (PC)

## MONDAY, JUNE 13, 2016

### **R** **PC** PEDIATRIC ORAL ABSTRACTS (PC)

Presented: 1:15 – 3:30 PM

Ballroom 6C

#### TOPICS

**Pediatric and Adult Congenital  
Heart Disease ..... PC-01 through PC-06**

*Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor; 3) Stock Ownership (not including stocks owned in a managed portfolio); 4) Research Grant (as principal investigator); 5) Employment Affiliation; 6) Royalty/ Patents*

#### PC-01

**Preoperative Non-invasive Pressure-volume Loop Analysis Indices of Cardiac Mechanics can Predict Length of Stay after Stage 2 Palliation: Insights from the Pediatric Heart Network Single Ventricle Reconstruction Trial**

Shahryar M. Chowdhury, Eric M. Graham, Carolyn L. Taylor, Andrew M. Atz, George H. Baker, Ryan J. Butts. Medical University of South Carolina, Charleston, SC

Presented by Shahryar M. Chowdhury, MD

#### PC-02

**Global Left Ventricular Relaxation: A Useful Predictive Echocardiographic Marker of Heart Transplant Rejection and Recovery in Children**

Lazaro E. Hernandez, Maryanne Chrisant, Lilliam Valdes-Cruz. Joe DiMaggio Children's Hospital, Hollywood, FL

Presented by Lazaro E. Hernandez, MD

#### PC-03

**Era-based Trends in Diagnostic Accuracy of Fetal Echocardiography: An 18 Year Experience**

Lindsay Urbinelli, Christopher Statile, James Cnota, Allison Divanovic, Haleh Heydarian, Peace Madueme, Lindsay Rogers, Eunice Hahn, Regina Keller, Cheri Franklin, Erik Michelfelder. Cincinnati Children's Hospital, Cincinnati, OH

Presented by Lindsay Urbinelli, MD

#### PC-04

**Fetal Growth Restriction Induces Different Prenatal Phenotypes of Cardiac Remodeling**

Merida Rodriguez-Lopez<sup>1</sup>, Monica Cruz-Lemini<sup>1</sup>, Brenda Valenzuela-Alcaraz<sup>1</sup>, Laura Garcia-Otero<sup>1</sup>, Marta Sitges<sup>2</sup>, Bart Bijmens<sup>3</sup>, Eduard Gratacos<sup>1</sup>, Fatima Crispi<sup>1</sup>. <sup>1</sup>BCNatal (Hospitals Clinic and Sant Joan de Deu), IDIBAPS, University of Barcelona, Barcelona, Spain; <sup>2</sup>Cardiovascular Institute, Hospital Clinic, IDIBAPS, University of Barcelona, Barcelona, Spain; <sup>3</sup>ICREA, Universitat Pompeu Fabra, Barcelona, Spain

Presented by Fatima Crispi, MD, PhD

#### PC-05

**Applicability of the First Pediatric Appropriate Use Criteria for Outpatient Echocardiography to Clinical Practice**

Soultana Kourtidou<sup>1</sup>, Patrick D. Evers<sup>1</sup>, Neal W. Jorgensen<sup>2</sup>, Richard A. Kronmal<sup>2</sup>, Mark B. Lewin<sup>1</sup>, Amy H. Schultz<sup>1</sup>. <sup>1</sup>Seattle Children's Hospital, Seattle, WA; <sup>2</sup>University of Washington, Department of Biostatistics, Seattle, WA

Presented by Soultana Kourtidou, MD, MSc

#### PC-06

**Surgical Unroofing of Intramural Anomalous Aortic Origin of a Coronary Artery in Pediatric Patients: A Single Center Perspective on Diagnosis and Outcomes**

Shagun Sachdeva, Peter C. Frommelt. Children's Hospital of Wisconsin, Milwaukee, WI

Presented by Shagun Sachdeva, MBBS

# Clinical Cases (CC)

## TUESDAY, JUNE 14, 2016

### PC CL CLINICAL CASES ORAL ABSTRACTS

Presented: 7:00 – 7:50 AM

Ballroom 6C

#### TOPICS

**Clinical Cases: Cardiovascular  
Ultrasound Imaging in Diagnosis,  
Clinical Decision-Making, and  
Patient Management..... CC-01 through CC-04**

*Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor; 3) Stock Ownership (not including stocks owned in a managed portfolio); 4) Research Grant (as principal investigator); 5) Employment Affiliation; 6) Royalty/Patents*

#### CC-01

**Infantile Cardiomyopathy with Coronary Origins from the Appropriate Sinuses: Surprise! It's Still the Coronaries**

Tammy Lane Churchill, Carolyn L. Taylor, Minoo N. Kavarana, Anthony M. Hlavacek, Ann Perkins, Shahryar M. Chowdhury. Medical University of South Carolina, Charleston, SC

Presented Tammy Lane Churchill, AA, RDCS

#### CC-02

**Ventricular Pre-excitation: An Unusual Etiology of Ventricular Dysfunction in the Fetus**

Rachel D. Torok, Piers C.A. Barker, Stephen G. Miller. Duke University Medical Center, Durham, NC

Presented by Rachel D. Torok, MD

#### CC-03

**Arrhythmogenic Right Ventricular Dysplasia, an Unusual Presentation and Fulminant Course**

Hari Rajagopal, Santosh Uppu, Shubhika Srivastava, Margret Magid, Howard Seiden, Ira Parness, Irene Lytrivi. Mount Sinai, New York, NY

Presented by Hari Rajagopal, MD

#### CC-04

**Unusual Conal Septal Alignment in Transposition of the Great Arteries**

Tuan Nguyen, Aecha M. Ybarra, Roque Ventura, Nao Sasaki, Juan C. Muniz, Liz Welch, Leo Lopez. Nicklaus Children's Hospital, Miami, FL

Presented by Aecha M. Ybarra, MD



# Poster Session 1 (P1)

## SUNDAY, JUNE 12, 2016

### **R** POSTER SESSION 1 (P1)

Presented: 9:00 AM – 4:00 PM

### EXHIBIT & POSTER HALL

Meet the Investigators: 12:00 – 1:15 PM

Moderated Poster Session: 12:00 – 1:15 PM

Moderators: D. Orsinelli, S. Goldstein, R. McNamara, K. Wei, S. Little, B. Hoit

### TOPICS

Pediatric and Adult Congenital Heart Disease ..... **PI-01 through PI-76**

Intraprocedural Echocardiography (Operating Room and Interventional Lab)/TEE ..... **PI-77 through PI-93**

Valvular Heart Disease... **PI-94 through PI-137**

Outcomes/Comparative Effectiveness ..... **PI-138 through PI-152**

Value of Echocardiography (Quality and Cost) ..... **PI-153 through PI-167**

Contrast Echocardiography and New Technology ..... **PI-168 through PI-192**

Vascular Disease ..... **PI-193 through PI-202**

Echocardiography in SOE/Arrhythmias/Atrial Function ..... **PI-203 through PI-212**

Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor; 3) Stock Ownership (not including stocks owned in a managed portfolio); 4) Research Grant (as principal investigator); 5) Employment Affiliation; 6) Royalty/Patents

### PEDIATRIC AND ADULT CONGENITAL HEART DISEASE

#### P1-01 THROUGH P1-76

#### PI-01

##### **Left Ventricular Rotational Indices in Children with Hypertrophic Cardiomyopathy: Unique Characteristics and Differences from Adults**

Andrea Montero, Putri Yubba, Kelley D. Miler, Kimberly Y. Lin, Joseph Rossano, Anirban Banerjee. The Children's Hospital of Philadelphia, Philadelphia, PA

#### PI-02

##### **Stress Echocardiographic Evaluation for D-transposition of the Great Arteries After Atrial Switch: Unmasking Early Signs of Myocardial Dysfunction and Baffle Stenosis**

Merav Dvir-Orgad<sup>1</sup>, Meera Ramani<sup>1</sup>, Terri Zadorsky<sup>1</sup>, Astrid De Souza<sup>1</sup>, Marla Kiess<sup>2</sup>, James Potts<sup>1</sup>, George Sandor<sup>1</sup>. <sup>1</sup>BC Woman and Children's Hospital, Vancouver, BC, Canada; <sup>2</sup>St Paul's Hospital, Vancouver, BC, Canada

#### PI-03

##### **Right Ventricular Reverse Remodeling After Transcatheter Pulmonary Valve Replacement**

Angela M. Kelle<sup>1</sup>, Joseph T. Poterucha<sup>1</sup>, Edmund N. Gillis<sup>1</sup>, Muhammad Y. Qureshi<sup>1</sup>, Megan M. O'Byrne<sup>1</sup>, John P. Cheatham<sup>2</sup>, Thomas K. Jones<sup>3</sup>, Evan M. Zahn<sup>4</sup>, William E. Hellenbrand<sup>5</sup>, Doff B. McElhinney<sup>6</sup>, Philip A. Araoz<sup>1</sup>, Benjamin W. Eidem<sup>1</sup>, Patrick W. O'Leary<sup>1</sup>. <sup>1</sup>Mayo Clinic, Rochester, MN; <sup>2</sup>Nationwide Children's Hospital, Columbus, OH; <sup>3</sup>Seattle Children's Hospital, Seattle, WA; <sup>4</sup>Cedars-Sinai Medical Center, Los Angeles, CA; <sup>5</sup>Yale School of Medicine, New Haven, CT; <sup>6</sup>Stanford University, Palo Alto, CA

Disclosures: J. P. Cheatham – 2, 4 (Medtronic, NuMed, Inc); T. K. Jones – 2, 4 (Medtronic); E. M. Zahn – 2 (Medtronic); W. E. Hellenbrand – 2 (Medtronic); D. B. McElhinney – 2 (Medtronic)

#### PI-04

##### **Mitral Valve Morphology in Marfan's Syndrome Assessed by 3D Echocardiography: Comparison to Normal Controls**

Matthew A. Jolley, Peter E. Hammer, Ronald V. Lacro, David M. Harrild. Boston Children's Hospital, Boston, MA

#### PI-05

##### **Exercise Stress Echocardiography in Children at Risk for Coronary Insufficiency Rarely Detects New Regional Wall Motion Abnormalities**

Scott Wood, W. Reid Thompson. Johns Hopkins Hospital, Division of Pediatric Cardiology, Baltimore, MD

## PI-06

### Longitudinal Assessment of Right Ventricular Function in Hypoplastic Left Heart Syndrome

Sowmya Balasubramanian<sup>1</sup>, Shea N. Smith<sup>1</sup>, Parthasarathy Srinivasan<sup>2</sup>, Theresa A. Tacy<sup>1</sup>, Frank L. Hanley<sup>1</sup>, Rajesh Punn<sup>1</sup>. <sup>1</sup>Stanford Medical School, Palo Alto, CA; <sup>2</sup>Cleveland State University, Cleveland, OH

## PI-07

### Delayed Time-to-peak Relaxation as Assessed by Speckle-tracking Echocardiography is a Predictor of Late Graft Failure in Pediatric Heart Transplant Patient

John L. Colquitt, S. Kristen Sexson Tejtelt, Aamir Jeewa, Susan W. Denfield, William J. Dreyer, Douglas K. Feagin, Ricardo H. Pignatelli. Baylor College of Medicine/Texas Children's Hospital, Houston, TX

## PI-08

### Cerebrovascular Blood Flow in Patients with Tetralogy of Fallot: Prediction for Early Surgical Intervention

Matthew D. Campbell<sup>1</sup>, Rajesh Punn<sup>2</sup>, Theresa Tacy<sup>2</sup>, Sheila Markwardt<sup>1</sup>, Erin Madriago<sup>1</sup>. <sup>1</sup>Oregon Health and Science University, Portland, OR; <sup>2</sup>Lucile Packard Children's Hospital Stanford, Palo Alto, CA

## PI-09

### Effectiveness of Echocardiography Simulation Training for Pediatric Cardiology Fellows in Congenital Heart Disease

Jeffrey D. Dayton<sup>1</sup>, Alan M. Groves<sup>1</sup>, Hoda T. Hammad<sup>1</sup>, Kevin Ching<sup>1</sup>, Linda M. Gerber<sup>1</sup>, Julie S. Glickstein<sup>2</sup>, Patrick A. Flynn<sup>1</sup>. <sup>1</sup>Weill Cornell Medicine, New York, NY; <sup>2</sup>Columbia University Medical Center, New York, NY

Disclosures: A. M. Groves – 3 (Neonatal Echo)

## PI-10

### Impact of Interventricular Interactions on Left Ventricular Filling in Ebstein Anomaly

Tao Fujioka<sup>1</sup>, Manfred Vogt<sup>2</sup>, Luc Mertens<sup>1</sup>, Mark K. Friedberg<sup>1</sup>. <sup>1</sup>The Hospital for Sick Children, Toronto, ON, Canada; <sup>2</sup>Deutsches Herzzentrum München, Technische Universität München, Munich, Germany

## PI-11

### Reaching High-risk and Underserved Mothers: Fetal Cardiac Evaluation by Telemedicine is an Effective Screening Tool

Elijah H. Bolin, Ronnie T. Collins, II, Sean M. Lang, Dala Zakaria, Thomas H. Best, Renee A. Bornemeir. University of Arkansas for Medical Sciences, Little Rock, AR

## PI-12

### Right Ventricular Contractile Reserve in Children After Heart Transplant

Barbara Cifra, Andreea Dragulescu, Cedric Manlhiot, Mark K. Friedberg, Luc Mertens. The Hospital for Sick Children, Toronto, ON, Canada

## PI-13

### Diagnostic Yield of Inpatient Pediatric Echocardiograms: Should Particular Hospital Units Require Cardiology Approval?

Sean M. Lang, Elijah Bolin, Joshua A. Daily, Xinyu Tang, R. Thomas Collins, II. University of Arkansas for Medical Sciences, Arkansas Children's Hospital, Little Rock, AR

## PI-14

### Understanding Fetal Cardiac Output and Pulsatility Indices in Different Congenital Heart Defects. The Effect of Fetal Hemodynamics on Fetal Growth

Tarek Alsaied, Stephanie Tseng, Eileen King, Eunice Hahn, Allison Divanovic, Mounira Habli, James F. Cnota. Cincinnati Children's Hospital, Cincinnati, OH

## PI-15

### Abnormalities in Left Ventricular Rotational Mechanics are Inherent in Repaired Tetralogy of Fallot in Early Childhood and are Independent of Right Ventricular Dilation and Function

Ruchika Karnik, Hari Rajagopal, Simon Lee, Santosh Uppu, Alaa Omar, Zhanna Roytman, Shubhika Srivastava. Mount Sinai Medical Center, New York, NY

## PI-16

### Maturation Patterns of Ventricular Septal Deformation in Preterm Infants: Ventricular Septal Remodeling in the First Year of Life

Eda Cristina Abuchai. Washington University School of Medicine, St Louis, MO

## PI-17

### A Pilot Study of Chronic Maternal Hyperoxygenation and Effect on Cerebral and Placental Vasoregulation and Neurodevelopment in Fetuses with Left Heart Hypoplasia

Lindsay A. Edwards<sup>1</sup>, Diego A. Lara<sup>1</sup>, Magdalena Sanz Cortez<sup>1</sup>, Jill V. Hunter<sup>1</sup>, Eboni M. Smith<sup>1</sup>, Shiraz A. Maskatia<sup>1</sup>, Shelley Andreas<sup>1</sup>, Magnolia Nguyen<sup>2</sup>, Lacey Schoppe<sup>2</sup>, Jianhong Zhang<sup>2</sup>, S. Kristen Sexson Tejtelt<sup>1</sup>, Keila N. Lopez<sup>1</sup>, Emily J. Lawrence<sup>1</sup>, Yunfei Wang<sup>1</sup>, Melissa Challman<sup>1</sup>, Nancy A. Ayres<sup>1</sup>, Carolyn Altman<sup>1</sup>, Kjersti Aagaard<sup>1</sup>, Judith Becker<sup>1</sup>, Shaine A. Morris<sup>1</sup>. <sup>1</sup>Baylor College of Medicine, Houston, TX; <sup>2</sup>Texas Children's Hospital, Houston, TX

## PI-18

### Circumferential Strain Rate is Accurate in Assessing Function in the Single Right Ventricle: Echocardiography and Magnetic Resonance Imaging Comparative Study

Silvia Alvarez<sup>1</sup>, Michelle Noga<sup>2</sup>, Kumaradevan Punithakumar<sup>2</sup>, Lily Lin<sup>1</sup>, Benjamin Goot<sup>1</sup>, Edythe Tham<sup>1</sup>, Timothy Colen<sup>1</sup>, Shelby Kutty<sup>3</sup>, Nee Khoo<sup>1</sup>. <sup>1</sup>Stollery Children's Hospital, Divisions of Pediatric Cardiology and Diagnostic Imaging, University of Alberta, Edmonton, AB, Canada; <sup>2</sup>Servier Virtual Cardiac Centre, Mazankowski Alberta Heart Institute and Department of Radiology and Diagnostic Imaging, University of Alberta, Edmonton, AB, Canada; <sup>3</sup>Joint Division of Pediatric Cardiology, University of Nebraska/Creighton University, Children's Hospital and Medical Center, Omaha, NE

## PI-19

### Cardiovascular Remodeling and Dysfunction Across the Severity of Growth Restriction in Small for Gestational Age Infants

Yohei Akazawa<sup>1</sup>, Syoko Yamazaki<sup>1</sup>, Akira Hachiya<sup>1</sup>, Noriko Motoki<sup>1</sup>, Motoko Kamiya<sup>2</sup>, Yukihide Miyosawa<sup>2</sup>, Tomohiko Nakamura<sup>2</sup>. <sup>1</sup>Department of Pediatrics, Shinshu University, School of Medicine, Matsumoto, Japan; <sup>2</sup>Division of Neonatology, Shinshu University, School of Medicine, Matsumoto, Japan



## PI-20

### **Pulmonary Vascular Disease Persists in Asymptomatic Preterm-born Infants Beyond Infancy: Assessment by Pulmonary Artery Acceleration Time**

Meghna D. Patel<sup>1</sup>, Swati Choudhry<sup>1</sup>, Philip T. Levy<sup>2</sup>, Gloria C. Lehmann<sup>1</sup>, Timothy J. Sekarski<sup>1</sup>, Mark R. Holland<sup>3</sup>, Aaron Hamvas<sup>4</sup>, Gautam K. Singh<sup>1</sup>. <sup>1</sup>Washington University in St. Louis, St. Louis, MO; <sup>2</sup>Goryeb Children's Hospital, Morristown, NJ; <sup>3</sup>Indiana University, Indianapolis, IN; <sup>4</sup>Northwestern University Feinberg School of Medicine, Chicago, IL

## PI-21

### **Tricuspid Annular Plane Systolic Excursion as a Marker of Right Ventricular Dysfunction in Pediatric Patients with Dilated Cardiomyopathy**

Ericka Scheller McLaughlin<sup>1,2</sup>, Curtis Travers<sup>2</sup>, Senthil Ramamurthy<sup>1</sup>, William L. Border<sup>1,2</sup>, Shripasad Deshpande<sup>1,2</sup>, Ritu Sachdeva<sup>1,2</sup>. <sup>1</sup>Children's Healthcare of Atlanta Sibley Heart Center Cardiology, Atlanta, GA; <sup>2</sup>Emory University School of Medicine, Atlanta, GA

## PI-22

### **Physician Engagement in Educational Intervention is Associated with Improved Appropriateness of Outpatient Echocardiograms: PAUSE Study Participant Survey**

Ritu Sachdeva<sup>1</sup>, Wyman W. Lai<sup>2</sup>, Michael S. Kelleman<sup>3</sup>, Courtney E. McCracken<sup>3</sup>, Leo Lopez<sup>4</sup>, Kenan WD Stern<sup>5</sup>, Rory B. Weiner<sup>6</sup>, Elizabeth Welch<sup>4</sup>, Robert M. Campbell<sup>1</sup>, Pamela S. Douglas<sup>7</sup>. <sup>1</sup>Emory University and Children's Healthcare of Atlanta, Sibley Heart Center Cardiology, Atlanta, GA; <sup>2</sup>NewYork-Presbyterian, Morgan Stanley Children's Hospital, New York, NY; <sup>3</sup>Emory University School of Medicine, Atlanta, GA; <sup>4</sup>Miami Children's Hospital, Miami, FL; <sup>5</sup>Children's Hospital at Montefiore, New York, NY; <sup>6</sup>Massachusetts General Hospital, Boston, MA; <sup>7</sup>Duke University, Durham, NC

## PI-23

### **The Impact of State Mandated Pulse Oximetry Screening on Resource Utilization**

Whitnee Hogan<sup>1</sup>, Harper Randall<sup>2</sup>, Lorenzo Botto<sup>1</sup>, Amy Nance<sup>2</sup>, Nelangi Pinto<sup>1</sup>. <sup>1</sup>University of Utah, Salt Lake City, UT; <sup>2</sup>Utah Department of Health, Salt Lake City, UT

## PI-24

### **Maternal Resource Use in Prenatally Diagnosed Congenital Heart Disease**

Nelangi Pinto, Richard Nelson, Lorenzo Botto, L. L. Minich, Janice Byrne, Sergey Krikov, Norman Waitzman. University of Utah, Salt Lake City, UT

Disclosures: N. Pinto – 4 (American Heart Association Western Affiliate, NHLBI)

## PI-25

### **The Clinical Utility of Exercise Stress Echocardiography: How Does it Impact Clinical Decision Making in Pediatric Patients?**

Heather Friedman<sup>1</sup>, Nicole Allen<sup>1</sup>, Megan Stark<sup>1</sup>, Ritu Sachdeva<sup>2</sup>, William Border<sup>2</sup>. <sup>1</sup>Children's Healthcare of Atlanta, Atlanta, GA; <sup>2</sup>Emory University School of Medicine, Atlanta, GA

## PI-26

### **The Pediatric Echocardiography Boot Camp: Four-year Experience and Impact on Clinical Performance Throughout Fellowship**

Shiraz A. Maskatia, Carolyn A. Altman, Shaine A. Morris, Antonio G. Cabrera. Baylor College of Medicine, Houston, TX

## PI-27

### **A Novel Protocol with Quantitative Echocardiographic Measures for Assessment of Single Ventricle Function Post Fontan: Efficiency of Incorporation into Routine Clinical Practice**

Rodrigo Rios, IV, Sara Shreve, Salil Ginde, David Saudek, Peter Frommelt. Medical College of Wisconsin, Children's Hospital of Wisconsin, Milwaukee, WI

## PI-28

### **Assessment of Right Ventricular Function and Severity of Pulmonary Hypertension Using Three Dimensional Echocardiography and Right Ventricular Strain in Pediatric Pulmonary Hypertension**

Pei-Ni Jone<sup>1</sup>, Carlie Bremen<sup>1</sup>, Matthew J. Mulvahill<sup>2</sup>, D. Dunbar Ivy<sup>1</sup>. <sup>1</sup>Pediatric Cardiology, Children's Hospital Colorado, University of Colorado School of Medicine, Aurora, CO; <sup>2</sup>Department of Pediatrics, University of Colorado School of Medicine, Aurora, CO

## PI-29

### **Adding Echocardiographic Alternatives to Evaluate Ventricular Function to Dystrophinopathy Patients**

Ricardo H. Pignatelli, S. Kristen Sexson Tejt, Douglas Feagin, John Colquitt, Hari Tunuguntla, Timothy E. Lotze, Aamir Jeewa, Hugh D. Allen. Baylor College of Medicine, Houston, TX

## PI-30

### **Estimation of Pulmonary to Systemic Flow Ratio by Transthoracic Echocardiography is Poor in Hemodynamically Significant Left to Right Shunt**

Erin Faherty, Hari Rajagopal, Simon Lee, Barry Love, Shubhika Srivastava, Ira Parness, Santosh Uppu. Mount Sinai Hospital, New York, NY

## PI-31

### **The Role of Regional Prenatal Cardiac Screening for Congenital Heart Disease: A Single Tertiary Center Experience with a Tiered Approach to Fetal Echocardiography**

Michele M. Pasierb, Margaret M. Vernon, Bhawna Arya. Seattle Children's Hospital, Seattle, WA

## PI-32

### **Quality Metric Evaluation of Pediatric Echocardiograms**

Nao Sasaki, Tuan Nguyen, Irwin Seltzer, Elizabeth M. Welch, Juan-Carlos G. Muniz, Leo Lopez. Nicklaus Children's Hospital, Miami, FL

## PI-33

### **Circumferential Strain for Left Ventricular Function Assessment in Duchenne Muscular Dystrophy**

Sujatha Buddh, Mark Lewin, Aaron Olson, Mark Ferguson, Brian Soriano. Seattle Childrens Hospital, Seattle, WA

## PI-34

### **Lower Prenatal Detection of Critical Pulmonary Stenosis as Compared to Pulmonary Atresia with Intact Ventricular Septum: Insights Into the Natural History**

Christina Ronai, Lindsay R. Freud, David W. Brown, Wayne Tworetzky. Boston Children's Hospital, Boston, MA

## PI-35

### **Engaging Physicians to Improve Prenatal Screening for Heart Defects in Practice**

Nelangi Pinto<sup>1</sup>, Kevin Henry<sup>2</sup>, Xiaoming Sheng<sup>1</sup>, William Grobman<sup>3</sup>,

Amen Ness<sup>4</sup>, Stephen Miller<sup>5</sup>, Sarah Ellestad<sup>5</sup>, Nina Gotteiner<sup>3</sup>, Theresa Tacy<sup>4</sup>. <sup>1</sup>University of Utah, Salt Lake City, UT; <sup>2</sup>Temple University, Philadelphia, PA; <sup>3</sup>Northwestern University, Chicago, IL; <sup>4</sup>Stanford University, Palo Alto, CA; <sup>5</sup>Duke University, Durham, NC

Disclosures: N. Pinto – 4 (American Heart Association Western Affiliate, NHLBI)

### PI-36



#### **Determinants of Academic Productivity: Analysis from the Third Survey of the American Society of Echocardiography Committee on Pediatric Echocardiography Laboratory Productivity (C-PELP)**

Brian D. Soriano<sup>1</sup>, Craig E. Fleishman<sup>2</sup>, Andrea M. Van Hoeve<sup>3</sup>, Bonnie Wright<sup>4</sup>, Beth Printz<sup>5</sup>, Theresa A. Tacy<sup>6</sup>, Vivek Allada<sup>7</sup>, Wyman W. Lai<sup>8</sup>, Sujatha

Budde<sup>1</sup>, Shubhika Srivastava<sup>9</sup>. <sup>1</sup>Seattle Children's Hospital, Seattle, WA; <sup>2</sup>Arnold Palmer Hospital for Children, Orlando, FL; <sup>3</sup>American Society of Echocardiography, Morrisville, NC; <sup>4</sup>Children's Healthcare of Atlanta, Atlanta, GA; <sup>5</sup>UC San Diego, San Diego, CA; <sup>6</sup>Lucile Packard Children's Hospital, Palo Alto, CA; <sup>7</sup>University of Pittsburgh, Pittsburgh, PA; <sup>8</sup>CHOC Children's Hospital, Orange, CA; <sup>9</sup>Mount Sinai School of Medicine, New York, NY

Disclosures: B. D. Soriano – 2 (Precision Image Analysis)

### PI-37

#### **Correlation between Right Atrial Volume and Pulmonary Artery Hypertension in Term and Preterm Infants**

Amit Shah<sup>1</sup>, Eric Weldy<sup>2</sup>, Lani Gao<sup>3</sup>, Rehan Qayyum<sup>3</sup>, Nisha Surenderanath<sup>3</sup>. <sup>1</sup>Children's Hospital, Erlanger, Chattanooga, TN; <sup>2</sup>University of Tennessee, Memphis, TN; <sup>3</sup>University of Tennessee, Chattanooga, TN

### PI-38

#### **Contrasting the Impact of Prenatal Diagnosis on Costs and Outcome by Diagnosis**

Whitnee Hogan, Richard Nelson, Norman Waitzman, L. L. Minich, Sergey Krikov, Michael Puchalski, Lorenzo Botto, Nelangi Pinto. University of Utah, Salt Lake City, UT

Disclosures: N. Pinto – 4 (American Heart Association Western Affiliate, NHLBI)

### PI-39

#### **Impact of Transcatheter Intervention on Myocardial Deformation in Patients with Coarctation of Aorta**

Ahmed Kheiba. Children's Hospital of Michigan, Detroit, MI

### PI-40

#### **Interobserver Variability in Echocardiographic Assessment of Right Ventricle in Hypoplastic Left Heart Syndrome**

Muhammad Yasir Qureshi, Megan M. O'Byrne, Chelsea L. Reece, Angela R. Miller, Rebecca K. Lindquist, Patrick W. O'Leary. Mayo Clinic, Rochester, MN

### PI-41

#### **Left Ventricular Function in Preterm Neonates: Reference Values for Left Ventricular Longitudinal Strain by Two-dimensional Speckle Tracking Echocardiography from Birth to One Year of Life**

Philip T. Levy<sup>1</sup>, Aura A. Sanchez<sup>2</sup>, Meghna D. Patel<sup>3</sup>, Gloria Lehmann<sup>3</sup>,

Mark R. Holland<sup>4</sup>, Timothy J. Sekarski<sup>3</sup>, Zach Vesoulis<sup>3</sup>, Amit Mathur<sup>3</sup>, Caroline Lee<sup>3</sup>, Aaron Hamvas<sup>5</sup>, Gautam K. Singh<sup>3</sup>. <sup>1</sup>Goryeb Children's Hospital, Morristown, NJ; <sup>2</sup>University of Minnesota, Minneapolis, MN; <sup>3</sup>Washington University in St. Louis, St. Louis, MO; <sup>4</sup>Indiana University, Indianapolis, IN; <sup>5</sup>Northwestern University Feinberg School of Medicine, Chicago, IL

### PI-42

#### **Early Mechanical Dyssynchrony Due to Right Bundle Branch Block Following Surgical Correction of Tetralogy of Fallot in Infants**

Andrew W. McCrary<sup>1</sup>, Andrea Kropf<sup>2</sup>, Melissa Britt<sup>1</sup>, Piers CA Barker<sup>1</sup>, Joseph A. Kisslo<sup>1</sup>, Daniel E. Forsha<sup>3</sup>. <sup>1</sup>Duke University, Durham, NC; <sup>2</sup>University of Florida, Jacksonville, FL; <sup>3</sup>Children's Mercy, Kansas City, MO

Disclosures: P. C. Barker – 4 (Medtronic); J. A. Kisslo – 4 (Medtronic); D. E. Forsha – 4 (Medtronic)

### PI-43

#### **Right Atrial and Right Ventricular Deformation in Predicting Outcomes in Pediatric Pulmonary Hypertension**

Pei-Ni Jone<sup>1</sup>, Ling Li<sup>2</sup>, Paul Homer<sup>2</sup>, Matthew J. Mulvahill<sup>3</sup>, Adel K. Younoaszai<sup>1</sup>, D. Dunbar Ivy<sup>1</sup>, Shelby Kutty<sup>2</sup>. <sup>1</sup>Pediatric Cardiology, Children's Hospital Colorado, University of Colorado School of Medicine, Aurora, CO; <sup>2</sup>Pediatric Cardiology, Children's Hospital and Medical Center, University of Nebraska, Omaha, NE; <sup>3</sup>Department of Pediatrics, University of Colorado School of Medicine, Aurora, CO

### PI-44

#### **Aortic Cusp Geometry in Children and Adolescents: New Insight Using Three-dimensional Transesophageal Echocardiography**

Tanomo Ono, Masaki Nii, Mizuhiko Ishigaki, Keisuke Sato, Jun Yoshimoto, Sang-Hae Kim, Norie Mitsushita, Yasuhiko Tanaka, Yasuo Ono. Pediatric Cardiology, Sizuoka Children's Hospital, Sizuoka, Japan

### PI-45

#### **Right Ventricular Strain Rate Prior to Stage 2 Palliation (Glenn) Improves Test Sensitivity and Negative Predictive Value for Death or Transplantation in Children with Hypoplastic Left Heart Syndrome**

Lily Q. Lin<sup>1</sup>, Jennifer Conway<sup>1</sup>, Silvia Alvarez<sup>1</sup>, Benjamin Goot<sup>1</sup>, Edythe B. Tham<sup>1</sup>, Timothy Colen<sup>1</sup>, Shelby Kutty<sup>2</sup>, Nee S. Khoo<sup>1</sup>. <sup>1</sup>University of Alberta, Edmonton, AB, Canada; <sup>2</sup>Children's Hospital & Medical Center, Omaha, NE

### PI-46

#### **Left Ventricular Rotational Mechanics in Early Infancy: Normal Reference Ranges and Reproducibility**

Shiraz A. Maskatia, Wesley Lee, Carolyn A. Altman, Nancy A. Ayres, Ricardo Pignatelli. Baylor College of Medicine, Houston, TX

### PI-47

#### **Intervendor Reproducibility of Left and Right Ventricular 2D Speckle Tracking Strain in the Structurally Normal Heart in Infants and Children**

Sandhya R. Ramlogan<sup>1</sup>, Rita France<sup>1</sup>, Stephanie Schmidt<sup>1</sup>, Julie Hinzman<sup>1</sup>, Ashley Sherman<sup>1</sup>, Suma Goudar<sup>1</sup>, Girish Shirali<sup>1</sup>, Niels Risum<sup>2</sup>, Joseph Kisslo<sup>3</sup>, Daniel Forsha<sup>1</sup>. <sup>1</sup>Children's Mercy Hospital Center, Kansas City, MO; <sup>2</sup>Rigshospitalet, Copenhagen, Denmark; <sup>3</sup>Duke University Medical Center, Durham, NC

Disclosures: J. Kisslo – 4 (Medtronic); D. Forsha – 4 (Medtronic)

## PI-48

### Papillary Fibroelastoma: Clinical and Echocardiographic Features and Initial Approach in 54 Cases

Omar Prieto, Jr., Tomas Cianciulli, Jorge Lax, Maria C. Saccheri, Juan B. Soumolou, Alberto Cozzarin, Martin Beck, Daniel E. Ferreiro, Horacio Prezioso. Hospital of the Government of the City of Buenos Aires "Dr. Cosme Argerich", Buenos Aires, Argentina

## PI-49

### The Left Ventricle in Severe Fetal Ebstein's Anomaly/Tricuspid Valve Dysplasia with Retrograde Ductal Flow Lacks the Adaptation Observed in Other Functional Single Left Ventricles

Luke Eckersley<sup>1</sup>, Paul Brooks<sup>1</sup>, Nee Khoo<sup>1,2</sup>, Timothy Colen<sup>1,2</sup>, Shelby Kutty<sup>3</sup>, David Danford<sup>3</sup>, Lisa Hornberger<sup>1</sup>. <sup>1</sup>Division of Paediatric Cardiology, Stollery Children's Hospital, Edmonton, AB, Canada; <sup>2</sup>University of Alberta, Edmonton, AB, Canada; <sup>3</sup>Joint Division of Pediatric Cardiology, University of Nebraska/Creighton University, Children's Hospital and Medical Center, Omaha, NE

## PI-50

### Right Ventricular Stroke Work Characterizes Ventricular-vascular Interactions in Children with Pulmonary Hypertension

Michael V. DiMaria<sup>1</sup>, Dale A. Burkett<sup>1</sup>, Adel K. Younoszai<sup>1</sup>, Bruce F. Landeck, II<sup>1</sup>, Luc Mertens<sup>2</sup>, Dunbar Ivy<sup>1</sup>, Mark K. Friedberg<sup>3</sup>, Kendall S. Hunter<sup>4</sup>. <sup>1</sup>Children's Hospital Colorado, University of Colorado School of Medicine, Aurora, CO; <sup>2</sup>The Labatt Family Heart Center, The Hospital for Sick Children, Toronto, ON, Canada; <sup>3</sup>The Labatt Family Heart Center, Hospital for Sick Children, Toronto, ON, Canada; <sup>4</sup>University of Colorado School of Bioengineering, Aurora, CO

Disclosures: A. K. Younoszai – 1 (General Electric Ultrasound)

## PI-51

### Impact of Accreditation on Quality in Echocardiograms: A Quantitative Approach

Sarina K. Behera<sup>1</sup>, Shea N. Smith<sup>2</sup>, Theresa A. Tacy<sup>2</sup>. <sup>1</sup>Stanford Children's Health at California Pacific Medical Center, San Francisco, CA; <sup>2</sup>Lucile Packard Children's Hospital at Stanford University, Palo Alto, CA

Disclosures: T. A. Tacy – 4 (Intersocietal Accreditation Commission)

## PI-52

### Left Ventricular Function in Preterm Neonates: Assessment of LV Rotational Mechanics from 32 weeks Post-menstrual Age to One Year

Meghna D. Patel<sup>1</sup>, Philip T. Levy<sup>2</sup>, Swati Choudhry<sup>1</sup>, Mark R. Holland<sup>3</sup>, Timothy J. Sekarski<sup>1</sup>, Aaron Hamvas<sup>4</sup>, Gautam K. Singh<sup>1</sup>. <sup>1</sup>Washington University in St. Louis, St. Louis, MO; <sup>2</sup>Goryeb Children's Hospital, Morristown, NJ; <sup>3</sup>Indiana University, Indianapolis, IN; <sup>4</sup>Northwestern University Feinberg School of Medicine, Chicago, IL

## PI-53

### Can Speckle-tracking Echocardiography Detect Iron Overload in Children?

Soultana Kourtidou<sup>1</sup>, Sujatha Buddhé<sup>1</sup>, Neal W. Jorgensen<sup>2</sup>, Mark R. Ferguson<sup>1</sup>, Brian D. Soriano<sup>1</sup>. <sup>1</sup>Seattle Children's Hospital, Seattle, WA; <sup>2</sup>University of Washington, Department of Biostatistics, Seattle, WA

Disclosures: B. D. Soriano – 2 (Precision Image Analysis)

## PI-54

### Serial Evaluation of Right Ventricular Mechanics in

## Young Children after Tetralogy of Fallot Repair

Vidhya Annavajjhala, Rajesh Punn, Doff McElhinney. Stanford University, Palo Alto, CA

## PI-55

### Right Ventricular Adaptation in Hypoplastic Left Heart Syndrome: Impact of the Norwood and Hybrid Procedures on its Progression

Kandice Mah<sup>1</sup>, Luke Eckersley<sup>1</sup>, Lily Lin<sup>1</sup>, Timothy Colen<sup>1</sup>, Edythe Tham<sup>1</sup>, Luc Mertens<sup>2</sup>, Nee Khoo<sup>1</sup>. <sup>1</sup>Stollery Children's Hospital, Edmonton, AB, Canada; <sup>2</sup>The Labatt Family Heart Centre, The Hospital for Sick Children, Toronto, ON, Canada

## PI-56

### Sniff Nasal Inspiratory Pressure and Observed IVC Collapse in Pediatric Patients: Age-related Variance in Reproducibility

Karine Guerrier, Christopher Statile, Philip Khoury, Erik Michelfelder. Cincinnati Children's Hospital Medical Center, Cincinnati, OH

## PI-57

### Improved Prenatal Detection Rates for Conotruncal Defects

Monika Drogosz, Max E. Godfrey, Kevin G. Friedman, David W. Brown, Gerald R. Marx, Jami C. Levine, Wayne Twaretzky. Boston Children's Hospital, Boston, MA

## PI-58

### Comparison of Chloral Hydrate and Pentobarbital Sedation for Pediatric Echocardiography

Madhusudan Ganigara<sup>1</sup>, Shubhika Srivastava<sup>2</sup>, Ira Parness<sup>2</sup>, H. Helen Ko<sup>2</sup>, Sherman Fong<sup>2</sup>, Rajesh Shenoy<sup>2</sup>. <sup>1</sup>Elmhurst Hospital Center, Icahn School of Medicine at Mount Sinai, Elmhurst, NY; <sup>2</sup>Mount Sinai, Kravis Children's Hospital, New York, NY

## PI-59

### Impact of Surgical Correction of Tetralogy of Fallot on Short-term Right and Left Ventricular Function as Determined by Two-dimensional Speckle Tracking Echocardiography

Yuman Li, Mingxing Xie, Xinfang Wang, Qing Lv. Department of Ultrasound, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

## PI-60

### Right Atrial Size by Trans-thoracic Echocardiography: Can we do Better Than "Eyeballing"?

Hari Rajagopal, Ruchika Karnik, Simon Lee, Rosalie Castaldo, Erika Pedri, Helen Ko, Santosh Uppu, Shubhika Srivastava. Mount Sinai, New York, NY

## PI-61

### Impact of Fetal Somatic Growth on Pulmonary Valve Z-Scores During Gestation and Through Birth in Patients with Tetralogy of Fallot

Alisa Arunamata, Sowmya Balasubramanian, Rajesh Punn, Amy P. Quirin, Theresa A. Tacy. Stanford Hospital and Clinics, Palo Alto, CA

## PI-62

### Pediatric Abstract Publication Rates for the American Society of Echocardiography Meeting

Adam K. Morrison, John M. Kelly, Brian Rivera, Carl H. Backes, Clifford L. Cua. Heart Center, Nationwide Children's Hospital, Columbus, OH

### PI-63

#### Three-dimensional Echocardiography in the Evaluation of Right Ventricular Regional Volume and Systolic Function in Patients with Atrial Septal Defect

Dehong Kong, Haohua Yao, Cuizhen Pan, Daxin Zhou, Xianhong Shu. Zhongshan Hospital, Fudan University, Shanghai, China

### PI-64

#### Ventricular Changes Evaluated by Echocardiography During Impella Support: Single Pediatric Institution Experience

Ricardo H. Pignatelli<sup>1</sup>, Aamir Jeewa<sup>1</sup>, Qureshi M. Athar<sup>1</sup>, Iki Adachi<sup>1</sup>, Sebastian Tume<sup>1</sup>, Douglas Feagin<sup>1</sup>, Yunfei Wang<sup>1</sup>, Ricardo A. Najera<sup>1</sup>, Barbara Elias<sup>2</sup>, Nancy A. Ayres<sup>1</sup>, Henri Justino<sup>1</sup>, Dhaval Parek<sup>1</sup>. <sup>1</sup>Baylor College of Medicine, Houston, TX; <sup>2</sup>Texas Children's Hospital, Houston, TX

### PI-65

#### Morphological Features of Complex Congenital Cardiovascular Anomalies in Fetuses: As Evaluated by Cast Models

Mingxing Xie<sup>1</sup>, Jing Deng<sup>2</sup>, Yu Wang<sup>1</sup>, Haiyan Cao<sup>1</sup>, Hong Liu<sup>1</sup>, Wei Han<sup>1</sup>, Bencai Song<sup>3</sup>. <sup>1</sup>Department of Ultrasound, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China; <sup>2</sup>Department of Medical Physics, University College London, and Department of Echocardiography, Barts Heart Centre, London, United Kingdom; <sup>3</sup>Laboratory of Anatomy, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

### PI-66

#### Pulmonary Vascular and Volume Growth in Fetus with Congenital Heart Defects with Conotruncal Abnormalities

Qian Wang<sup>1</sup>, Yihua He<sup>1</sup>, Ying Zhao<sup>1</sup>, Ling Han<sup>1</sup>, Lin Sun<sup>1</sup>, Shuping Ge<sup>2</sup>. <sup>1</sup>Beijing Anzhen Hospital, Capital Medical University, Beijing, China; <sup>2</sup>St. Christopher's Hospital for Children/Drexel University College of Medicine, Philadelphia, PA

### PI-67

#### Maternal Hyperoxygenation in Fetuses with Transposition of the Great Arteries

Nithya Swaminathan, Wyman Lai, Julie Glickstein, Amee Shah, Anjali Chelliah, Ganga Krishnamurthy, Lindsay Freud, Stephanie Levasseur. Columbia University Medical Center, New York, NY

### PI-68

#### Echocardiographic Evaluation of Homograft-Valved Right Ventricle to Pulmonary Artery Conduits After First Stage Palliation of Hypoplastic Left Heart Syndrome

Nefthi Sandeep, Shea N. Smith, Sowmya Balasubramanian, Rajesh Punna, Doff McElhinney. Lucile Packard Children's Hospital Stanford, Palo Alto, CA

### PI-69

#### Prevalence and Impact of Focused Cardiac Ultrasound: Survey of the American Society of Echocardiography Committee on Pediatric Echocardiography Laboratory Productivity (C-PELP)

Brian D. Soriano<sup>1</sup>, Craig E. Fleishman<sup>2</sup>, Andrea M. Van Hoever<sup>3</sup>, Bonnie Wright<sup>4</sup>, Beth Printz<sup>5</sup>,

Theresa A. Tacy<sup>6</sup>, Vivek Allada<sup>7</sup>, Wyman W. Lai<sup>8</sup>, Sujatha Buddhé<sup>1</sup>, Shubhika Srivastava<sup>9</sup>. <sup>1</sup>Seattle Children's Hospital, Seattle, WA; <sup>2</sup>Arnold Palmer Hospital for Children, Orlando, FL; <sup>3</sup>American Society of Echocardiography, Morrisville, NC; <sup>4</sup>Children's Healthcare of Atlanta, Atlanta, GA; <sup>5</sup>UC San Diego, San Diego, CA; <sup>6</sup>Lucile Packard Children's Hospital, Palo Alto, CA; <sup>7</sup>University of Pittsburgh, Pittsburgh, PA; <sup>8</sup>CHOC Children's Hospital, Orange, CA; <sup>9</sup>Mount Sinai School of Medicine, New York, NY

Disclosures: B. D. Soriano – 2 (Precision Image Analysis)

### PI-70

#### Correlation of 2D Strain with Pressure/Volume Catheter Measurements for Intraoperative Assessment of Right and Left Ventricular Mechanics in Juvenile Pigs: Does Software Version Matter?

Sandhya S. Ramlogan<sup>1</sup>, Richard Hopkins<sup>1</sup>, Daniel Forsha<sup>1</sup>, Stephen Kaine<sup>1</sup>, Eric Buse<sup>1</sup>, Hongying Dai<sup>1</sup>, Shelby Kutty<sup>2</sup>, Suma Goudar<sup>1</sup>, Girish Shirali<sup>1</sup>. <sup>1</sup>Children's Mercy Hospital Center, Kansas City, MO; <sup>2</sup>University of Nebraska Medical Center, Omaha, NE

### PI-71

#### Comparison of Right Atrial Size Between Echocardiography and Cardiac MRI in Children

Sujatha Buddhé, Mark Ferguson, Heidi Hathaway, Brian D. Soriano. Seattle Children's Hospital, Seattle, WA

### PI-72

#### Congenital Pericardial Defects: Clinical Features and Diagnosis

Saqer Alkharabsheh, Mohammad M. Asfari, Matthew Summers, Allan Klein. Cleveland Clinic Foundation, Cleveland, OH

### PI-73

#### Echocardiographic Illustrations of Reverse Circular Shunt in Prenatal Absent Aortic Valve

Hari Rajagopal, Ruchika Karnik, Santosh Uppu, Shubhika Srivastava, Sangeeta Sharma. Mount Sinai, New York, NY

### PI-74

#### Fetal Diagnosis of Bifid Superior Vena Cava with Dual Atrial Connection and Normal Pulmonary Venous Drainage

Nithya Swaminathan, Anjali Chelliah, Donna Timchak, Stephanie Levasseur. Columbia University Medical Center, New York, NY

### PI-75

#### Abnormal Cardiac Imaging Findings in a Pediatric Patient with ALL and Hypereosinophilia

Michael J. Campbell, Sihong Huang, Stephanie Wechsler, Andrew McCrary, Steve Darty, Piers C.A. Barker. Duke University, Durham, NC

### PI-76

#### Understanding the Anatomy and Physiology of Complex Congenital Heart Disease: A Rare Case of Double Inlet Right Ventricle

Neha Soni-Patel, Sarah Plummer. Rainbow Babies and Children's Hospital, Cleveland, OH





**P1-77 THROUGH P1-93**

**PI-77 MODERATED POSTER**

**Percutaneous Mitral Valve Repair Alters Dynamic  
Three-dimensional Echocardiography Indices of Mitral  
Valve Function**

Andreas Schuler, Kei Togashi, Elizabeth Perpetua, Thomas K. Jones, Mark Reisman, Srdjan Jelacic, G. Burkhard Mackensen. University of Washington, Seattle, WA

**PI-78 MODERATED POSTER**

**Patient-specific 3D Printed Models of the Mitral  
Valve Apparatus from 3D Transesophageal  
Echocardiographic Imaging**

Marija Vukicevic, Eleonora Avenatti, Stephen H. Little. Methodist Hospital, Houston, TX

**PI-79**

**The Impact of Ligation of Proximal Side Branches  
on Blood Flow and Functional Status of the Internal  
Thoracic Artery in Coronary Anastomosis**

Jose S. Abreu<sup>1</sup>, Jeane M. Tsutsui<sup>2</sup>, Sandra N. Falcao<sup>3</sup>, José A. Feitosa<sup>4</sup>, Eduardo A. Rocha<sup>4</sup>, Italo Oliveira<sup>3</sup>, Teresa C. Diogenes<sup>4</sup>, Jose N. Paes<sup>4</sup>, João C.N. Sbrano<sup>2</sup>, Luis A. Dallan<sup>2</sup>, Roberto Kalil<sup>2</sup>, Wilson Mathias, Jr.<sup>2</sup>. <sup>1</sup>Public Health Department, State University of Ceará, Fortaleza, Brazil; <sup>2</sup>Heart Institute (InCor)-University of São Paulo Medical School, São Paulo, Brazil; <sup>3</sup>Messejana's Heart and Lung Hospital, Fortaleza, Brazil; <sup>4</sup>Prontocárdio Hospital, Fortaleza, Brazil

**PI-80**

**The MitraClip Delivery System Alters Dynamic Indices  
of Mitral Valve Function During Percutaneous Mitral  
Valve Repair**

Andreas Schuler, Kei Togashi, Srdjan Jelacic, Thomas K. Jones, Donald Oxorn, Mark Reisman, G. Burkhard Mackensen. University of Washington, Seattle, WA

**PI-81**

**The Value of Three-dimensional Transesophageal  
Echocardiography and Automatic Valve Analysis in  
Evaluation of Pure Aortic Regurgitation Patients Treated  
with New Generation of Transcatheter Aortic Valve**

Weipeng Zhao, Yongle Chen, Lai Wei, Cuizhen Pan, Xianhong Shu. Zhongshan Hospital, Fudan University, Shanghai, China

**PI-82**

**Isolated Chordal Shortening: A Novel Mechanism to  
Account for Functional Mitral Regurgitation**

Evann Eisenberg, Neena Passi, Waddy Gonzalez, Ayesha Salahuddin, Daniel Spevack. Montefiore Medical Center, Bronx, NY

**PI-83**

**Left Atrial Vortex Flow Features Associated with  
Stroke or Death in Patients with Left Atrial Appendage  
Occlusion Device Implantation**

In-Cheol Kim, Geu-Ru Hong, Da-Rae Kim, Sang-Eun Lee, Iksung Cho, In-Jeong Cho, Chi-Young Shim, Hyuk-Jae Chang, Jong-

Won Ha, Namsik Chung. Severance Cardiovascular Hospital, Yonsei University, Seoul, Republic of Korea

**PI-84**

**Real Time 3Dimensional Transesophageal  
Echocardiographic Prediction of Artificial Neochordae  
Length for Mitral Valve Repair**

Manisha Mishra, Amit Chandra, Anand Kumar, Dhiraj Arora, Naresh Trehan. Medanta-The Medicity, Gurgaon, India

**PI-85**

**Mitral Valve Gradient Following Successful Single vs  
Multiple MitraClip Device Repair**

Lowie Van Assche, Mark J. Ricciardi, Abbigayle M. Doerr, James Thomas, Jyothy J. Puthumana. Northwestern Memorial Hospital, Chicago, IL

Disclosures: M. J. Ricciardi – 2 (Abbott Vascular); J. Thomas – 1, 2, 4 (Abbott Vascular)

**PI-86**

**3D Color Doppler Vena Contracta Area for the  
Quantification of Residual Mitral Valve Regurgitation  
after MitraClip Procedure**

Eleonora Avenatti, Marija Vukicevic, Colin M. Barker, Stephen H. Little. Houston Methodist Hospital, Houston, TX

**PI-87**

**Estimation of Pulmonary Artery Pressure Based on  
Pulmonary Artery Acceleration Time in Cardiac Surgery  
and Cardiac Intensive Care**

Matthew J. Griffiee, Joshua M. Zimmerman. University of Utah School of Medicine, Department of Anesthesiology, Salt Lake City, UT

**PI-88**

**3D Echocardiographic Analysis of Aortic Annulus for  
Transcatheter Aortic Valve Replacement Using Novel  
Aortic Valve Quantification Software: Comparison with  
Computed Tomography**

Anuj Mediratta<sup>1</sup>, Karima Addetia<sup>1</sup>, Robert J. Schneider<sup>2</sup>, Eric Kruse<sup>1</sup>, Atman P. Shah<sup>1</sup>, Sandeep Nathan<sup>1</sup>, Jonathan D. Paul<sup>1</sup>, John E. Blair<sup>1</sup>, Victor Mor-Avi<sup>1</sup>, Roberto M. Lang<sup>1</sup>. <sup>1</sup>University of Chicago, Chicago, IL; <sup>2</sup>Philips, Andover, MA

Disclosures: R. J. Schneider – 5 (Philips HealthTech); R. M. Lang – 1 (Philips)

**PI-89**

**Incidence of Postoperative Dysphagia Using Micro-mini  
versus MiniMulti Transesophageal Echocardiography  
Probe**

Jennifer Co-Vu<sup>1</sup>, Guillermo E. Pi<sup>1</sup>, Sabikha Alam<sup>2</sup>, Mark S. Bleiweis<sup>1</sup>, Curt G. DeGroff<sup>1</sup>. <sup>1</sup>University of Florida, Gainesville, FL; <sup>2</sup>Children's Healthcare of Atlanta, Atlanta, GA

**PI-90**

**Multimodality Imaging for Transcatheter Aortic Valve  
Replacement Planning in Patients with Chronic Kidney  
Disease**

Lucy Safi, Nandini Meyersohn, Brian Ghoshharja, Jacob Dal-Bianco, Sammy Elmariah, Ignacio Inglessis, Igor Palacios, Gus Vlahakes, Serguei Melnitchouk, Jonathan Passeri. Massachusetts General Hospital, Boston, MA



## PI-91

### Value of Holodiastolic Flow Reversal in Descending Aorta for Grading of Aortic Regurgitation Using Transesophageal Echocardiography

Hirotsugu Mihara, Kou Suzuki, Masanari Kurobe, Ryo Yamaguchi, Kouji Mizutani, Hideo Oishi, Masanobu Fujimoto, Hitoshi Ichimiya, Yasuhiro Uchida, Junji Watanabe, Masaaki Kanashiro, Satoshi Ichimiya. Yokkaichi Municipal Hospital, Yokkaichi, MIE, Japan

## PI-92

### Assessment of Left Ventricular Diastolic Function by Time-volume Curve in Off-pump Coronary Artery Bypass Graft Surgery

Yuzuru Inatomi, Shinya Kato, Kenji Yoshitani, Yoshihiko Ohnishi. National Cerebral and Cardiovascular Center, Suita, Japan

## PI-93 WITHDRAWN

## VALVULAR HEART DISEASE

### P1-94 THROUGH P1-137

## PI-94 MODERATED POSTER

### Three Dimensional (3D) Printing and Functional Assessment of Aortic Stenosis Using a Flow Circuit: Feasibility and Reproducibility

Serge C. Harb, Ryan Klatte, Brian P. Griffin, Leonardo L. Rodriguez. Cleveland Clinic Foundation, Cleveland, OH

## PI-95 MODERATED POSTER

### Prognostic Usefulness of Right Ventricular Focused Echocardiography in Patients with Ischemic Mitral Regurgitation Referred to Different Surgical Strategies

Carlo Fino<sup>1</sup>, Attilio Iacovoni<sup>1</sup>, Julien Magne<sup>2</sup>, Antonio Miceli<sup>3</sup>, Alice Calabrese<sup>1</sup>, Emilia D'Elia<sup>4</sup>, Giuseppe Romano<sup>4</sup>, Fletcher A. Miller, Jr.<sup>5</sup>, Joseph Maalouf<sup>5</sup>, Giuseppe Raffa<sup>4</sup>, Michele Pilato<sup>4</sup>, Lorenzo Galletti<sup>1</sup>, Diego Bellavia<sup>4</sup>. <sup>1</sup>Ospedale Papa Giovanni XX-III, Bergamo, Italy; <sup>2</sup>Limoges University Hospital, Limoges, France; <sup>3</sup>Istituto Clinico Humanitas, Milano, Italy; <sup>4</sup>ISMETT / UPMC, Palermo, Italy; <sup>5</sup>Mayo Clinic and Foundation, Rochester, MN

## PI-96 MODERATED POSTER

### Computational Fluid Dynamics Characterization of Flow Through Dual Orifice Mitral Regurgitant Jets

Sumeet S. Mitter<sup>1</sup>, Scott Manifold<sup>2</sup>, Nicholas Furiasse<sup>1</sup>, Jyothy J. Puthumana<sup>1</sup>, Mark J. Ricciardi<sup>1</sup>, Gregory J. Wagner<sup>2</sup>, James D. Thomas<sup>1</sup>. <sup>1</sup>Division of Cardiology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL; <sup>2</sup>Department of Mechanical Engineering, McCormick School of Engineering and Applied Science, Evanston, IL

## PI-97

### Familial Clustering of Mitral Regurgitation in the Community

Francesca N. Delling<sup>1,2</sup>, Shuo Li<sup>3</sup>, Qiong Yang<sup>4</sup>, Vanessa Xanthakis<sup>2</sup>, Birgitta Lehman<sup>2</sup>, Ewa Osypuk<sup>2</sup>, Plamen Stantchev<sup>2</sup>, Emilia J. Benjamin<sup>2,3</sup>, Ramachandran S. Vasan<sup>2,3</sup>. <sup>1</sup>Beth Israel Deaconess Medical Center, Boston, MA; <sup>2</sup>Framingham Heart Study, Framingham, MA; <sup>3</sup>Boston University School of Medicine, Boston, MA; <sup>4</sup>Boston University School of Public Health, Boston, MA

## PI-98

### Varying Stroke Volume in Atrial Fibrillation: Impact on Grading Severity of Aortic Stenosis and Clinical Outcomes

Said Alsidawi, Sana Khan, Colleen Lane, Jeremy Thaden, Sorin Pislaru, Robert McCully, Jae Oh, Patricia Pellikka, Vuyisile Nkomo. Mayo Clinic, Rochester, MN

## PI-99

### Ratio of Acceleration Time to Ejection Time Predicts True-severe in Patients with Low Gradient Aortic Stenosis: Dobutamine Stress Echocardiographic Study

Keisuke Minami, Masaki Izumo, Seisyou Kou, Yukio Sato, Shingo Kuwata, Ryo Kamijima, Kei Mizukoshi, Kengo Suzuki, Tomoo Harada, Yoshihiro Akashi. St. Marianna University, Kawasaki-shi, Japan

## PI-100

### Low-flow, Low-gradient Aortic Stenosis: Prognostic Value of Flow Rates vs. Stroke Volume During Dobutamine Echocardiography

Said Alsidawi, Robert B. McCully, Christopher G. Scott, Sorin V. Pislaru, Patricia A. Pellikka, Mackram F. Eleid, Jae K. Oh, Vuyisile T. Nkomo. Division of Cardiovascular Diseases, Mayo Clinic School of Medicine, Rochester, MN

## PI-101

### Influence of Novel Parameters to Improve Inconsistent Grading of Severe Aortic Stenosis

Frederman Concepcion, Jay Mohan, David Houff, Chad Morreale. Swedish Covenant Hospital, Chicago, IL

## PI-102

### Long-term Outcomes of Tricuspid Annuloplasty for Very Severe Functional Tricuspid Regurgitation

Duk-Hyun Kang<sup>1</sup>, Jeong Yoon Jang<sup>1</sup>, Sahmin Lee<sup>1</sup>, Dae-Hee Kim<sup>1</sup>, Jong-Min Song<sup>1</sup>, Kee-Joon Choi<sup>1</sup>, Jae-Kwan Song<sup>1</sup>, Joo-Hee Zo<sup>2</sup>. <sup>1</sup>Asan Medical Center, Seoul, Republic of Korea; <sup>2</sup>Boramae Hospital, Seoul, Republic of Korea

## PI-103

### Diastolic Wall Strain in Severe Aortic Stenosis

Edinrin Obasare, Vikas Bhalla, Deepakraj Gajanana, Mary Rodriguez Ziccardi, Jose N. Codolosa, Vincent M. Figueredo, Dennis Lynn Morris, Gregg Pressman. Einstein Medical Center, Philadelphia, PA

## PI-104

### Prevalence and Impact of Coexistent Bicuspid Aortic Valve in Hypertrophic Cardiomyopathy

Ratnasari Padang, Bernard J. Gersh, Steve R. Ommen, Jeffrey B. Geske. Mayo Clinic, Rochester, MN

## PI-105

### Mitral Annular Motion in Patients After Transcatheter MitraClip, Surgical Mitral Valve Repair and Replacement

Kentaro Toyama<sup>1</sup>, Kengo Ayabe<sup>2</sup>, Florian Rader<sup>1</sup>, Saibal Kar<sup>1</sup>, Alfredo Trento<sup>1</sup>, Michele A. De Robertis<sup>1</sup>, Robert J. Siegel<sup>1</sup>. <sup>1</sup>The Heart Institute, Cedars-Sinai Medical Center, Los Angeles, CA; <sup>2</sup>Department of Anesthesia, Cedars-Sinai Medical Center, Los Angeles, CA

## PI-106

### Reproducibility of Echocardiographic Parameters of Mitral Regurgitation Severity

Alicia Armour, Ashlee M. Davis, Ross B. Smith, Karen Strub, David B.

Adams, John H. Toptine, Matthew Phelan, John H. Alexander, Pamela S. Douglas, Eric J. Velazquez, Zainab Samad. Duke University, Durham, NC

### PI-107

#### Is Chronic Severe Mitral Regurgitation Always Associated with a Dilated Left Ventricle?

Mirnela Byku, Deana Mikhalkova, Tracy Hagerty, Nishath Quader. Washington University in St. Louis, St. Louis, MO

### PI-108

#### Cardiac Remodeling in Patients with Mild Forms of Organic Mitral Regurgitation: Phenotype Dependent?

Zhenhua Li<sup>1,2</sup>, Rakesh M Suri<sup>3</sup>, Thomas A Foley<sup>1</sup>, Sunil V Mankad<sup>1</sup>, Maurice Enriquez-Sarano<sup>1</sup>, Hector I Michelena<sup>1</sup>. <sup>1</sup>Mayo Clinic, Rochester, MN; <sup>2</sup>Jinan Central Hospital, Jinan, China; <sup>3</sup>Cleveland Clinic, Cleveland, OH

### PI-109

#### Effect of Transcatheter Mitral Reconstruction with a Transfemoral Adjustable System on 3-Dimensional Geometry of the Mitral Annulus

Mani Arsalan<sup>1</sup>, Eustachio Agricola<sup>2</sup>, Ottavio Alfieri<sup>2</sup>, Stephan Baldus<sup>3</sup>, Antonio Colombo<sup>2</sup>, Akeem Latin<sup>2</sup>, Giovanni Filardo<sup>4</sup>, Christoph Hammerstingl<sup>5</sup>, Georg Nickenig<sup>5</sup>, Michael Huntgeburth<sup>3</sup>, Felix Kreidel<sup>6</sup>, KarlHeinz Kuck<sup>6</sup>, Giovanni LaCanna<sup>2</sup>, David Messika Zeitoun<sup>7</sup>, Yan Topilsky<sup>8</sup>, Francesco Maisano<sup>9</sup>, Benjamin D. Pollock<sup>4</sup>, Bradley J. Roberts<sup>4</sup>, Paul Grayburn<sup>4</sup>. <sup>1</sup>Kerckhoff Heartcenter, Bad Neuheim, Germany; <sup>2</sup>San Raffaele Hospital, Milano, Italy; <sup>3</sup>University Hospital Koln, Koln, Germany; <sup>4</sup>Baylor Heart and Vascular Institute, Dallas, TX; <sup>5</sup>University Hospital Bonn, Bonn, Germany; <sup>6</sup>St George Hospital, Hamburg, Germany; <sup>7</sup>Bichat Hospital, Paris, France; <sup>8</sup>Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; <sup>9</sup>University Hospital Zurich, Zurich, Switzerland

Disclosures: P. Grayburn – 2 (Abbott Vascular), 4 (Tendyne, Valtech Cardio), 2 (Abbott Vascular)

### PI-110

#### Paravalvular Regurgitation in Sapien 3 versus Sapien XT Following Transcatheter Aortic Valve Replacement: A Meta-analysis

Tomo Ando<sup>1</sup>, Cynthia Taub<sup>2</sup>. <sup>1</sup>Mount Sinai Beth Israel, New York, NY; <sup>2</sup>Montefiore Medical Center, Bronx, NY

### PI-111

#### Gender and Race Differences in Ventricular Remodeling in Severe Aortic Stenosis

J. Raider Estrada, Victor Mor-Avi, Boguslaw Ciszek, Minnie Thykattil, Lynn Weinert, Keith A. Collins, Eric Kruse, Preston Ferrara, Roberto M. Lang. University of Chicago, Chicago, IL

### PI-112

#### Elevated Mitral Valve Gradients Post Repair Using a Single Surgical Strategy: Functional Significance Evaluated Through Stress Echocardiography

James Lambert, Maithri Siriwardena, Babitha Thampinathan, Jennifer Lam, Nyla Girwar, Anna Woo, Tirone David, Wendy Tsang. Toronto General Hospital, Toronto, ON, Canada

### PI-113

#### Feasibility of Myocardial Strain Analysis Based on Feature Tracking Gated Cardiac Computed Tomography and Its Correlation with Transthoracic Echocardiography in Patients with Severe Aortic Stenosis

Joao L. Cavalcante, Shasank Rijal, John Gorcsan, III. University of

Pittsburgh, Pittsburgh, PA

Disclosures: J. L. Cavalcante – 4 (Medtronic, TomTec Corp)

### PI-114

#### Clinical Significance of Elevated Bioprosthetic Gradients After Transcatheter Aortic Valve Replacement

Mahmoud A. Ali, Vuyisile T. Nkomo, Patricia A. Pellikka, Heidi M. Connolly, Christopher G. Scott, Gurpreet S. Sandhu, David R. Holmes, Charanjit S. Rihal, Kevin L. Greason, Sorin V. Pislaru. Mayo Clinic, Rochester, MN

### PI-115

#### Early and Long-term Impact of Transcatheter Aortic Valve Replacement on Left Ventricular Deformation in Patients with Severe Aortic Stenosis

Kimi Sato, Serge Harb, Brandon M. Jones, Samir R. Kapadia, Richard A. Grimm, Brian P. Griffin, Leonardo Rodriguez, Zoran B. Popović. Cleveland Clinic, Cleveland, OH

### PI-116

#### Mitral Regurgitation Depends on Mitral Annular Anterior-posterior Diameter in Severe Aortic Stenosis: Assessment of Mitral Valve Complex by Three-dimensional Echocardiography

Masumi Iwai-Takano, Takashi Igarashi, Shinya Takase, Hitoshi Yokoyama. Fukushima Medical University, Fukushima, Japan

### PI-117

#### Age Nulls the Obesity “Paradox” in Patients with Severe Aortic Stenosis Undergoing Surgical Aortic Valve Replacement

Dragos Alexandru, Simcha Pollack, Florentina Petillo, Eddy Barasch. St. Francis Hospital, The Heart Center/SUNY at Stony Brook, Roslyn, NY

### PI-118 WITHDRAWN

### PI-119

#### Characterization of Mitral Regurgitation in Cardiac Sarcoidosis by Two-dimensional Echocardiography and PET Imaging

Shanti Nulu, Zartashia Shahab, Edward J. Miller, Lavanya Bellumkonda, Lissa Sugeng. Yale New Haven Hospital/Yale School of Medicine, New Haven, CT

### PI-120 WITHDRAWN

### PI-121

#### Impairment in Subendocardial Basal Longitudinal Strain: An Early Sign of Left Ventricular Dysfunction in Patients with Aortic Stenosis

Mahmoud Alashry, Sushil Luis, Anusith Tunhasirwet, Ratnasari Padang, Elise Oehler, Vuyisile T. Nkomo, Sorin V. Pislaru, Patricia Pellikka, Cristina Pislaru. Mayo Clinic, Rochester, MN

### PI-122

#### Impact of Elongation of Thoracic Aorta Caused by Progression of Atherosclerosis on Sigmoid Septum

Yasuaki Wada<sup>1</sup>, Ayano Fujii<sup>1</sup>, Toru Ariyoshi<sup>1</sup>, Hiroko Nishikawa<sup>1</sup>, Tomoko Tanaka<sup>1</sup>, Hirokazu Yoshida<sup>2</sup>, Ayako Toyota<sup>2</sup>, Shinichi Okuda<sup>2</sup>, Nobuaki Tanaka<sup>2</sup>, Masafumi Yano<sup>2</sup>. <sup>1</sup>Yamaguchi University Hospital, Ube, Japan; <sup>2</sup>Yamaguchi University Graduate School of Medicine, Ube, Japan

### PI-I23

#### **Interobserver Variability in the Assessment of Invasive Complication of Prosthetic Aortic Valve Endocarditis: Highlighting the Need for Further Study and Standardization**

Jorge Betancpr, Paul C. Cremer, Kunal Patel, Wael Jaber, L. Leonardo Rodriguez, Venu Menon. Cleveland Clinic, Cleveland, OH

### PI-I24

#### **Determinants, Predictors and Results of Early Surgery in Prosthetic Endocarditis with Perivalvular Extension**

Mariana Mahia, Ricardo Ronderos, Sr., Martin Vivas, Ana Iribarren, Pablo Fernandez Osés, Francisco Nacinovich, Laura Juarez, Avegliano Gustavo, Mariano Vrancic, Daniel Navia. Instituto Cardiovascular de Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina

### PI-I25

#### **Global Longitudinal Strain Detects Systolic Dysfunction with Myocardial Fibrosis in Aortic Stenosis: Comparison with Late Gadolinium Enhancement and Histopathological Findings**

Tsuyoshi Fujimiya, Masumi Iwai-Takano, Takashi Igarashi, Shinya Takase, Hitoshi Yokoyama. Fukushima Medical University, Fukushima, Japan

### PI-I26

#### **Evaluation of Abnormal High Molecular Weight von Willebrand Factor Multimer Levels in Patients Undergoing Transcatheter Aortic Valve Replacement**

Milla J. Kviatkovsky, Christina Tyrrell, Kyle Muir, Matt Slater, Saurabh Gupta, Ed Kahl, WoHaib Hasan, Stephen Heitner. Oregon Health and Science University, Portland, OR

### PI-I27

#### **Abrupt Rightward Septal Motion in Severe Tricuspid Regurgitation: A Manifestation of Interventricular Dyssynchrony?**

Yutthapong Temtanakitpaisan, Hsuko Kuo, Dennis A. Tighe, Gerard P. Aurigemma. University of Massachusetts, Worcester, MA

### PI-I28

#### **Exercise Stress Echocardiography for Atrial Functional Mitral Regurgitation**

Chihiro Saito, Kotaro Arai, Sae Tanino, Keiko Ikarashi, Kyomi Ashihara, Nobuhisa Hagiwara. Tokyo Women's Medical University, Tokyo, Japan

### PI-I29

#### **Bicuspid Aortic Valve Area in Normal Heart**

Moshe Katz<sup>1,2</sup>, Rafael Kuperstein<sup>1,2</sup>, Israel Mazin<sup>1</sup>, Ori Vaturi<sup>1</sup>, Roy Beigel<sup>1</sup>, Micha Feinberg<sup>1</sup>, Ehud Raanani Ehud<sup>1</sup>, Sagit Ben Zekry<sup>1</sup>. <sup>1</sup>Sheba, Ramat gan, Israel; <sup>2</sup>Sheba Medical Center, Ramat gan, Israel

### PI-I30

#### **The Incidence and Doppler Echocardiographic Characteristics of Normally Functioning Mitral Prostheses with Mean Gradient $\geq 10$ mm Hg**

Chad M. House<sup>1,2</sup>, Katie A. Moriarty<sup>1,2,3</sup>, William B. Nelson<sup>1,2,3</sup>. <sup>1</sup>Regions Hospital, St. Paul, MN; <sup>2</sup>HealthPartners Medical Group, Minneapolis, MN; <sup>3</sup>University of Minnesota Medical School, Minneapolis, MN

### PI-I31

#### **Adverse Effects of Electrical Dyssynchrony on Left Ventricular and Left Atrial Reverse Remodeling and Prognosis after Aortic Valve Replacement**

Soo Youn Lee<sup>1</sup>, Chi Young Shim<sup>2</sup>, Geu-Ru Hong<sup>2</sup>, Seng Chan You<sup>2</sup>, In Jeong Cho<sup>2</sup>, Sang Jin Ha<sup>3</sup>, Hyuk-Jae Chang<sup>2</sup>, Jong-Won Ha<sup>2</sup>, Namsik Chung<sup>2</sup>. <sup>1</sup>Cardiology Division, Severance Cardiovascular Hospital, Yonsei University College of Medicine/Sejong General Hospital, Seoul, Republic of Korea; <sup>2</sup>Cardiology Division, Severance Cardiovascular Hospital, Yonsei University College of Medicine, Seoul, Republic of Korea; <sup>3</sup>Cardiology Division, Asan Hospital, Ulsan University College of Medicine, Gang-reung, Republic of Korea

### PI-I32

#### **Changes in Mitral Valve Leaflets Strain Following Non-resectional Mitral Valve Repair of Primary Mitral Regurgitation**

Sagit Ben Zekry<sup>1</sup>, Jeff Freeman<sup>2</sup>, Aarti Jajoo<sup>2</sup>, Jiwen He<sup>2</sup>, Stephen H. Little<sup>1</sup>, Gerals M. Lawrie<sup>3</sup>, Robert Azencott<sup>2</sup>, William A. Zoghbi<sup>1</sup>. <sup>1</sup>Houston Methodist DeBakey Heart and Vascular Center, Houston, TX; <sup>2</sup>University of Houston, Department of Mathematics, Houston, TX; <sup>3</sup>Houston Methodist DeBakey Heart and Vascular Center, Cardiovascular and Thoracic Surgery, Houston, TX

### PI-I33

#### **Influence of the Left Ventricle Outlet Tract Diameter on the Dimensionless Index for Severe Aortic Stenosis**

Frederman Concepcion, Jay Mohan, David Houff, Chad Morreale. Swedish Covenant Hospital, Chicago, IL

### PI-I34

#### **Outcome of Anticoagulation Therapy for Bioprosthetic Valve Thrombosis: A Prospective Study**

Alexander Egbe, Heidi Connolly, Patricia Pellikka, Hartzell Schaff, Sorin Pislaru. Mayo Clinic, Rochester, MN

### PI-I35

#### **Correlation Between Exercise Tolerance and N-terminal Pro B-type Natriuretic Peptide in the Patients with Significant Valvular Heart Disease and Normal Left Ventricular Systolic Function**

Ji-won Hwang, Sung-Ji Park, Sung-A Chang, Sang-Chol Lee, Seung Woo Park, A-Young Lim. Samsung Medical Center, Seoul, Republic of Korea

### PI-I36

#### **Can Intraoperative Post Aortic Valve Replacement Transvalvular Pressure Gradients be Taken as Baseline Values for Future Comparisons?**

Dragos Alexandru, Simcha Pollack, Florentina Petillo, Eddy Barasch. St. Francis Hospital, The Heart Center/SUNY at Stony Brook, Roslyn, NY

### PI-I37

#### **Echocardiography After Transaortic Valve Implantation with Direct Flow Medical Prosthesis**

Thomas Sturmberger, Veronika Eder, Josef Aichinger, Wolfgang Tkalec, Christian Ebner. Elisabethinen Hospital Linz, Linz, Austria

### PI-138 MODERATED POSTER

#### Pre-operative Right Ventricular Dysfunction Predicts Long Term Mortality after Coronary Artery Bypass Graft

Mohammed A. Chowdhury<sup>1</sup>, George Moukarbel<sup>1,2</sup>, Mark Bonnell<sup>1</sup>, Thomas Schwann<sup>1</sup>, Samer Khouri<sup>1</sup>. <sup>1</sup>University of Toledo, Toledo, OH; <sup>2</sup>University of Toledo Medical Center, Toledo, OH

### PI-139 MODERATED POSTER

#### Predicting REhospitalization Due to Congestive Heart Failure Using Echocardiographic Parameters (PRECEPT Study)

Norasak Suvachittanont, Teerapat Yingchoncharoen. Ramathibodi Hospital, Bangkok, Thailand

### PI-140 MODERATED POSTER

#### Morphological Assessment of the Left Atrial Appendage in Patients with Atrial Fibrillation by Gray-scale Inverted Volume-rendered Imaging of Three-dimensional Transesophageal Echocardiography: A Comparative Study with Computed Tomography

Hong-ning Song, Rui-qiang Guo, Qing Zhou. Renmin Hospital of Wuhan University, Wuhan City, China

### PI-141

#### Sensitivity of Transthoracic Echo in the Detection of Pericardial Cysts

Saqer Alkharabsheh, Amr F. Barakat, Ahmed El-Telbany, Neha Gupta, Ayman I. Ayache, Allan Klein. Cleveland Clinic Foundation, Cleveland, OH

### PI-142

#### Subclinical Disease Mediates the Relation Between Biomarkers and Cardiovascular Events and Death in African Americans

Eva J. Ingram<sup>1</sup>, Ervin R. Fox<sup>2</sup>, Vanessa Xanthakis<sup>3</sup>, Ramachandran Vasan<sup>3</sup>, Solomon Musani<sup>4</sup>. <sup>1</sup>Brown University Medical School, Providence, RI; <sup>2</sup>University of MS Medical Center, Jackson, MS; <sup>3</sup>Boston University School of Medicine, Boston, MA; <sup>4</sup>University of Mississippi School of Medicine, Jackson, MS

### PI-143

#### Abnormal Right Ventricular Fractional Area Change is Associated with Poor Survival in Patients with Pulmonary Arterial Hypertension

Nisha Gandhi, Jaehee Kim, Howard Julien, Henry Siu, Arielle Fields, Michael Scharf, Praveen Mehrotra. Thomas Jefferson University Hospital, Philadelphia, PA

### PI-144

#### Left Ventricular Hypertrophy in Preterm Infants: Risk Factors and Outcome

Swati Choudhry<sup>1</sup>, Tyler W. Cunningham<sup>1</sup>, Michael Wallendorf<sup>1</sup>, Philip T. Levy<sup>1,2</sup>, Gautam K. Singh<sup>1</sup>, Brian P. Hackett<sup>1</sup>, Mark C. Johnson<sup>1</sup>. <sup>1</sup>Washington University School of Medicine, St. Louis, MO; <sup>2</sup>Goryeb Children's Hospital, Morristown, NJ

### PI-145

#### Right Ventricular Failure Following Ventricular Assist Device Implant: Systematic Review and Meta-analysis of Clinical and Echocardiographic Predictors

Diego Bellavia<sup>1</sup>, Attilio Iacovoni<sup>2</sup>, Cesare Scardulla<sup>1</sup>, Giuseppe Romano<sup>1</sup>, Calogero Falletta<sup>1</sup>, Chiara Minà<sup>1</sup>, Gabriele Di Gesaro<sup>1</sup>, Sonia Dell'Oglio<sup>1</sup>, Michele Pilato<sup>1</sup>, Fletcher A. Miller, Jr.<sup>3</sup>, Sudhir S. Kushwaha<sup>1</sup>, Cesar H. Baravoglia<sup>1</sup>, Joseph Maalouf<sup>3</sup>, Michale Dandel<sup>4</sup>. <sup>1</sup>ISMETT/UPMC, Palermo, Italy; <sup>2</sup>Ospedale Papa Giovanni XX-III, Bergamo, Italy; <sup>3</sup>Mayo Clinic and Foundation, Rochester, MN; <sup>4</sup>HerzZentrum, Berlin, Germany

### PI-146

#### Prenatal and Postnatal Echocardiographic Characteristics of Ventricular Diverticulum and Clinical Outcomes

Lin Sun<sup>1</sup>, Yihua He<sup>1</sup>, Ying Zhao<sup>1</sup>, Xiaoyan Gu<sup>1</sup>, Jiancheng Han<sup>1</sup>, Ye Zhang<sup>1</sup>, Shuping Ge<sup>2</sup>. <sup>1</sup>Beijing Anzhen Hospital, Capital Medical University, Beijing, China; <sup>2</sup>St. Christopher's Hospital for Children/ Drexel University College of Medicine, Philadelphia, PA

### PI-147

#### Normative Left Ventricular M-mode Echocardiographic Values in Preterm Infants

Swati Choudhry<sup>1</sup>, Tyler W. Cunningham<sup>1</sup>, Philip T. Levy<sup>1,2</sup>, Hoang H. Nguyen<sup>1</sup>, Michael Wallendorf<sup>1</sup>, Gautam K. Singh<sup>1</sup>, Mark C. Johnson<sup>1</sup>. <sup>1</sup>Washington University School of Medicine, St. Louis, MO; <sup>2</sup>Goryeb Children's Hospital, Morristown, NJ

### PI-148

#### A Novel Diagnostic Testing Strategy for Coronary Artery Disease: Incorporating Thresholds for Noninvasive and Invasive Testing

Chayakrit Krittanawong<sup>1</sup>, Anusith Tunhasirwet<sup>1</sup>, Hongju Zhang<sup>1</sup>, Tao Sun<sup>1</sup>, Zhen Wang<sup>2</sup>, Collin P. West<sup>3</sup>. <sup>1</sup>Division of Cardiovascular Disease, Department of Medicine, Mayo Clinic, Rochester, MN; <sup>2</sup>Department of Healthcare Policy and Research, Mayo Clinic, Rochester, MN; <sup>3</sup>Department of Biomedical Statistics and Informatics, Mayo Clinic, Rochester, MN

### PI-149

#### Appropriate Use of Transthoracic Echocardiography and Impact in Heart Failure Survival

Ricardo Fonseca<sup>1</sup>, John Galligan<sup>2</sup>, Samuel Neilson<sup>2</sup>, Quan Huynh<sup>1</sup>, Makoto Saito<sup>1</sup>, Kazuaki Negishi<sup>1</sup>, Thomas H. Marwick<sup>3</sup>. <sup>1</sup>Menzies Institute for Medical Research, Hobart, Australia; <sup>2</sup>Royal Hobart Hospital, Hobart, Australia; <sup>3</sup>Baker-IDI Heart and Diabetes Institute, Melbourne, Australia

### PI-150

#### Right Ventricle Systolic Remodeling Index is a New Echocardiography Parameter that Predicts Long Time Survival in Patients with Pulmonary Hypertension

Violeta Illatopa, Sr., Fernando Cordova, Sr., Jorge Ortega, Sr.. National Heart Institute, Lima, Peru

### PI-151

#### Left Atrial Remodeling Predicts Recurrence of Congestive Heart Failure in Patients with Atrial Fibrillation

Maidar Tumenbayar, Kazuto Yamaguchi, Hiroyuki Yoshitomi, Takeshi Oshima, Misun Pak, Taku Nakamura, Taiji Okada, Nobuhide Watanabe, Nobuyuki Takahashi, Akihiro Endo, Kazuaki Tanabe. Shimane University Faculty of Medicine, Department of Cardiology, Izumo, Japan



## PI-152

### Difference in Prognostic Impact of E/E' Between Decreased and Preserved Left Ventricular Function in Patients with Acute Decompensated Heart Failure

Se Yong Jang<sup>1</sup>, Dong Heon Yang<sup>1</sup>, Nam Kyun Kim<sup>1</sup>, Chang-Yeon Kim<sup>1</sup>, Jihyun Son<sup>2</sup>, Myung Hwan Bae<sup>1</sup>, Jang Hoon Lee<sup>1</sup>, Hun Sik Park<sup>1</sup>, Yongkeun Cho<sup>1</sup>, Shung Chull Chae<sup>1</sup>. <sup>1</sup>Kyungpook National University Hospital, Daegu, Republic of Korea; <sup>2</sup>Kyungpook National University Medical Center, Daegu, Republic of Korea

## VALUE OF ECHOCARDIOGRAPHY (QUALITY AND COST)

### P1-153 THROUGH P1-167

## PI-153 MODERATED POSTER

### Estimated Radiation Exposure to Cardiac Sonographers Performing Studies on Patients Injected for Nuclear Perfusion Imaging

Donna Chelle V. Morales, Gregory Natello, Gian Carlo Giove, Marissa Hernandez, Seth Uretsky, Lillian Aldaia, Leo Marcoff, Konstantinos Koulgiannis, Linda D. Gillam. Morristown Medical Center, Morristown, NJ

## PI-154

### Accuracy of Preliminary Interpretations of Echocardiograms by Cardiology Fellows

Selma Carlson, Kathleen Kearney, Song Li, Michelle Fujioka, Becky Schwaegler, James Kirkpatrick. University of Washington, Seattle, WA

## PI-155

### The Correlation of Left Ventricular Outflow Tract Area Between Non-invasive Imaging Modalities

Evann Eisenberg, Neena Passi, Peter Vlismas, Mario Garcia, Daniel Spevack. Montefiore Medical Center, Bronx, NY

## PI-156

### Echocardiography in Centenarians: Indications, Impact and Repercussions

Jorge A. Brenes-Salazar<sup>1</sup>, Punnaia Marella<sup>2</sup>, Hari P. Chaliki<sup>2</sup>, Christopher G. Scott<sup>1</sup>, Heidi M. Connolly<sup>1</sup>, Roger L. Click<sup>1</sup>. <sup>1</sup>Mayo Clinic Rochester, Rochester, MN; <sup>2</sup>Mayo Clinic Scottsdale, Scottsdale, AZ

## PI-157

### Appropriate Use of Transesophageal Echocardiography and its Clinical Impact

Nay Htete<sup>1</sup>, Tripti Gupta<sup>1</sup>, Kelly Shum<sup>1</sup>, Evan Jacobs<sup>2</sup>, Bruce Wilson<sup>1</sup>, Ravi Avati<sup>1</sup>, Homaa Ahmad<sup>1</sup>, Michael Cash<sup>1</sup>, Homeyar Dinshaw<sup>1</sup>, Yvonne Gilliland<sup>1</sup>, Eiman Jahangir<sup>1</sup>, Carl Lavie<sup>1</sup>, John P. Reilly<sup>1</sup>, Sangeeta Shah<sup>1</sup>. <sup>1</sup>Ochsner Health System, New Orleans, LA; <sup>2</sup>Partners in Integrated Care, Margate, FL

## PI-158

### Pediatric Echocardiography in an Open versus Closed Access Environment: Comparison of Cost and Patient Charges in Children Under 4 Years of Age

Allison A. Divanovic, Christopher Statile, Erik Michelfelder, Jeffrey Anderson. Cincinnati Children's Hospital, Cincinnati, OH

## PI-159

### Improvement of Quality and Completeness in Initial Pediatric Echocardiograms Using a Stepwise Standardized Protocol

Chalese Richardson, Zachary Goldstein, Dorota Gruber, Denise A. Hayes, Elena N. Kwon. Cohen Children's Medical Center, New Hyde Park, NY

## PI-160

### Study of Left Ventricular Diastolic Function in Patients with DDD Pacemaker Implantation for Sick Sinus Syndrome During Atrioventricular Conduction and Right Ventricular Apex Pacing Mode

Li-juan Zhang<sup>1</sup>, Jing Yao<sup>2</sup>, Huang Tang<sup>2</sup>. <sup>1</sup>Ultrasonic Department, Pukou Hospital, Nanjing, China; <sup>2</sup>First Affiliated Hospital of Nanjing Medical University, Nanjing, China

## PI-161

### The Simplified Risk Assessment by Left Ventricular Global Strain Measurement for Clinical Use in Patients with Dilated Cardiomyopathy

Tetsuuri Onishi, Misato Chimura, Yasue Tsukishiro, Hiroya Kawai. Himeji Cardiovascular Center, Himeji, Japan

## PI-162

### A Quantification of Radiation Exposure for Technicians Working in an Academic Noninvasive Cardiovascular Imaging Laboratory

Michael Velez, Maryellen Orsinelli, David Orsinelli. Ohio State University Wexner Medical Center, Columbus, OH

## PI-163

### Optimizing Workflow in a Pediatric Laboratory to Increase the Accuracy and Value of the Echocardiographic Report

Pei-Ni Jone, Brian Fonseca, Ruthanne Gould, Cindy Barrett, Adel K. Younoaszai. Pediatric Cardiology, Children's Hospital Colorado, University of Colorado School of Medicine, Aurora, CO

## PI-164

### Diagnostic Accuracy of Echocardiography for Bicuspid Aortic Valve

Renuka Jain<sup>1</sup>, Khawaja A. Ammar<sup>1</sup>, Susan Olet<sup>2</sup>, Matthew M. Umland<sup>1</sup>, Bijoy K. Khandheria<sup>1</sup>, Abdul J. Tajik<sup>1</sup>. <sup>1</sup>Aurora Cardiovascular Services, Milwaukee, WI; <sup>2</sup>Aurora Research Institute, Milwaukee, WI

## PI-165

### How Often is LBBB Dyssynchrony Identified on Transthoracic Echocardiography? A Quality Improvement Pilot Study

Wilson T. Hannah, Ara Tachjian, Gerard Aurigemma. University of Massachusetts Medical School, Worcester, MA

## PI-166

### Physicians Attitudes Towards the First Pediatric Appropriate Use Criteria Influence Their Impact on Appropriateness and Change in Practice

Ritu Sachdeva<sup>1</sup>, Wyman W. Lai<sup>2</sup>, Michael S. Kelleman<sup>3</sup>, Courtney E. McCracken<sup>3</sup>, Leo Lopez<sup>4</sup>, Kenan WD Stern<sup>5</sup>, Rory B. Weiner<sup>6</sup>, Elizabeth Welch<sup>4</sup>, Robert M. Campbell<sup>1</sup>, Pamela S. Douglas<sup>7</sup>. <sup>1</sup>Emory University and Children's Healthcare of Atlanta, Sibley Heart Center Cardiology, Atlanta, GA; <sup>2</sup>NewYork-Presbyterian, Morgan Stanley Children's Hospital, New York, NY; <sup>3</sup>Emory University School of Medicine,



Atlanta, GA; <sup>4</sup>Miami Children's Hospital, Miami, FL; <sup>5</sup>Children's Hospital at Montefiore, New York, NY; <sup>6</sup>Massachusetts General Hospital, Boston, MA; <sup>7</sup>Duke University, Durham, NC

## PI-I67

### Evaluation of the Appropriate Use Criteria for Acute Echocardiography in a Real World Setting

Erik S. Marshall, Ahmed S. Abuzaid. Christiana Care Health System, Newark, DE

## CONTRAST ECHOCARDIOGRAPHY AND NEW TECHNOLOGY

### P1-168 THROUGH P1-192

## PI-I68 MODERATED POSTER

### Detection of Residual Microvascular Obstruction following Contemporary Interventional Management of Acute ST Segment Elevation Myocardial Infarction

Sourabh Aggarwal, Gregory Pavlides, Feng Xie, Thomas R. Porter. University of Nebraska Medical Center, Omaha, NE

Disclosures: T. R. Porter – 4 (Lantheus Medical Imaging, Bracco Diagnostics, Astellas Pharma)

## PI-I69 MODERATED POSTER

### Ultrasound-targeted Microbubbles Combined with a Peptide Nucleic Acid Binding Nuclear Localization Signal Mediates the Transfection of Exogenous Genes by Improving Both Cytoplasmic and Nuclear Import

Nan Jiang, Qian Chen, Sheng Cao, Bo Hu, Yi-jia Wang, Rui-qiang Guo. Renmin Hospital of Wuhan University, Wuhan City, China

## PI-I70 MODERATED POSTER

### Altered Acoustic Behavior of Intravenous Definity when Administered as a Compressed Droplet and Activated Locally with Transthoracic Diagnostic Ultrasound

Songita Choudhury<sup>1</sup>, Feng Xie<sup>1</sup>, Paul Dayton<sup>2</sup>, Thomas R. Porter<sup>1</sup>. <sup>1</sup>University of Nebraska Medical Center, Omaha, NE; <sup>2</sup>University of North Carolina, Chapel Hill, NC

Disclosures: T. R. Porter – 4 (Lantheus Medical Imaging, Bracco Research & Educational Support, Astellas Pharma Inc., Philips Research)

## PI-I71 MODERATED POSTER

### New Software-based Beamforming Algorithm is Superior to Standard Hardware-based Beamformer in Endocardial Border Detection

Robert Kulina<sup>1</sup>, Sunil Agarwal<sup>1</sup>, Brandon Wiley<sup>2</sup>, Adeena Traube<sup>1</sup>, Suzanne Schiller<sup>1</sup>, Soon Ka<sup>1</sup>, Lisa Clark<sup>1</sup>, Partho P. Sengupta<sup>1</sup>, Jagat Narula<sup>1</sup>, Farooq A. Chaudhry<sup>1</sup>. <sup>1</sup>Icahn School of Medicine at Mount Sinai, New York, NY; <sup>2</sup>National Institute of Health, Washington, DC

Disclosures: P. P. Sengupta – 2 (Heart Test Labs, Edward Lifesciences); J. Narula – 2, 4 (GE); F. A. Chaudhry – 2 (Lantheus Medical Imaging), 4 (Bracco, GE)

## PI-I72 MODERATED POSTER

### Different Characteristics of Left Ventricular Vortex Flow Pattern in Patients with Hypertrophic Cardiomyopathy: Quantitative Vortex Flow Analysis Using Contrast Echocardiography

Darae Kim<sup>1</sup>, Geu-Ru Hong<sup>1</sup>, Jung-Woo Son<sup>2</sup>, In Jeong Cho<sup>1</sup>, Chi

Young Shim<sup>1</sup>, Hyuk-Jae Chang<sup>1</sup>, Jong-Won Ha<sup>1</sup>, Namsik Chung<sup>1</sup>. <sup>1</sup>Severance Hospital, Seoul, Republic of Korea; <sup>2</sup>Hallym University, Chuncheon, Republic of Korea

## PI-I73

### How Much Does the Precision of Strain Measurement Increase with Experience?

Tomoko Negishi<sup>1</sup>, Kazuaki Negishi<sup>1</sup>, Mark Nolan<sup>1</sup>, Manish Bansal<sup>2</sup>, Evgeny Shkolnik<sup>3</sup>, Andre La Gerche<sup>4</sup>, Philip Mottram<sup>5</sup>, Liza Thomas<sup>6</sup>, Svend Aakhus<sup>7</sup>, Stéphanie Seldrum<sup>8</sup>, Nobuaki Fukuda<sup>9</sup>, Hirotugu Yamada<sup>10</sup>, Julie Lemieux<sup>11</sup>, Krassimira Hristova<sup>12</sup>, Koji Kurosawa<sup>13</sup>, Martin Penicka<sup>14</sup>, Bogdan A. Popescu<sup>15</sup>, Dragos Vinereanu<sup>15</sup>, Goo-Yeong Cho<sup>16</sup>, Paaladinesh Thavendiranathan<sup>17</sup>, Thomas H. Marwick<sup>14</sup>. <sup>1</sup>University of Tasmania, Menzies Institute for Medical Research, Hobart, Australia; <sup>2</sup>Medanta-The Medicity, Gurgaon, India; <sup>3</sup>Moscow State University of Medicine & Dentistry, Moscow, Russian Federation; <sup>4</sup>Baker IDI Heart & Diabetes Institute, Melbourne, Australia; <sup>5</sup>Monash Medical Center, Melbourne, Australia; <sup>6</sup>Liverpool Hospital, Sydney, Australia; <sup>7</sup>Oslo University Hospital, Oslo, Norway; <sup>8</sup>CHU UCL Mont-Godinne, Yvoir, Belgium; <sup>9</sup>Takasaki General Medical Center, Takasaki, Japan; <sup>10</sup>Tokushima University, Tokushima, Japan; <sup>11</sup>Centre de recherche du CHU de Québec, Québec, QC, Canada; <sup>12</sup>National Heart Hospital, Sofia, Bulgaria; <sup>13</sup>Gunma University, Maebashi, Japan; <sup>14</sup>Cardiovascular Center Aalst, Aalst, Belgium; <sup>15</sup>University of Medicine and Pharmacy Carol Davila, Bucharest, Romania; <sup>16</sup>Seoul National University Bundang Hospital, Seongnam, Republic of Korea; <sup>17</sup>University of Toronto, Toronto General Hospital, Peter Munk Cardiac Center, Toronto, ON, Canada

## PI-I74

### Fully Automatic Echocardiographic Segmentation Using Machine-learning Algorithms

Arghavan Arafati<sup>1</sup>, Michael R. Avendi<sup>1</sup>, Daisuke Morisawa<sup>1</sup>, Reza Amini<sup>2</sup>, Ramin Assadi<sup>2</sup>, Arash Kheradvar<sup>1</sup>. <sup>1</sup>University of California Irvine, Irvine, CA; <sup>2</sup>Loma Linda University, Loma Linda, CA

## PI-I75

### Feasibility of Three-dimensional (3D) Contrast-enhanced Ultrasound (CEUS) for Assessment of Carotid Artery Stenosis and Intra-plaque Neovascularization in Patients Undergoing Surgical Carotid Endarterectomy

Sandeep A. Saha<sup>1</sup>, Venu Gourineni<sup>1</sup>, Kunlin Cao<sup>2</sup>, Jorge E. Novo<sup>1</sup>, Vijaya Reddy<sup>1</sup>, Robert J. March<sup>1</sup>, Walter McCarthy<sup>1</sup>, Chad Jacobs<sup>1</sup>, Marshall Goldin<sup>1</sup>, Boris Shur<sup>1</sup>, Frank Yamout<sup>1</sup>, Aaron M. Dentinger<sup>3</sup>, David M. Mills<sup>2</sup>, Steven B. Feinstein<sup>1</sup>. <sup>1</sup>Rush University Medical Center, Chicago, IL; <sup>2</sup>General Electric Company, Niskayuna, NY; <sup>3</sup>GE Global Research, Milwaukee, WI

Disclosures: K. Cao – 5 (General Electric); A. M. Dentinger – 5 (GE Global Research); D. M. Mills – 3 (General Electric Company); S. B. Feinstein – 2 (GE Global Research)

## PI-I76

### Relationship of Intraplaque Neovascularization, Cardiovascular Events and Lipoproteins: A Microbubble Contrast Enhancement Ultrasound Study: Interim Results

Runqing Huang<sup>1</sup>, Sahar S. Abdelmoneim<sup>2</sup>, Eric J. Dailey<sup>1</sup>, Mary E. Hagen<sup>1</sup>, Thanila A. Macedo<sup>1</sup>, Sharon L. Mulvagh<sup>1</sup>. <sup>1</sup>Mayo Clinic, Rochester, MN; <sup>2</sup>Harrington Heart & Vascular Institution, Cleveland, OH

## PI-I77

### Evaluation of Acute Cellular Rejection in Heart Transplant Patients Using Speckle Tracking Echocardiography

Cecilia B.B.V. Cruz<sup>1</sup>, Wilson Mathias, Jr.<sup>1</sup>, Marco S. Lofrano-Alvez<sup>1</sup>,

Marcio S.M. Lima<sup>1</sup>, Fernando Bacal<sup>1</sup>, Joao C.N. Sbrano<sup>1</sup>, Maria C. Abduch<sup>1</sup>, Jeane M. Tsutsui<sup>1,2</sup>, <sup>1</sup>Heart Institute (InCor)-University of São Paulo Medical School, São Paulo, Brazil; <sup>2</sup>Fleury Group, São Paulo, Brazil

### PI-178

#### **Assessment of Left Ventricular Function: Left Ventricular Blood Flow Imaging (LVcFlow) versus Contrast Echocardiography**

Masood Ahmad, Tianrong Xie, Meneleo Dimaano, Christine Stephans, Stacie Thompson. University of Texas, Galveston, TX

### PI-179

#### **Can Contrast-enhanced Echocardiographic Evaluation of the Outflow Cannula Improve the Assessment of the Left Ventricular Assist Device?**

Eric J. Kruse, Diego Medvedofsky, Gabriel Sayer, Sirtaz Adatya, Gene Kim, Nitasha Sarswat, Takeyoshi Ota, Valluvan Jeevanandam, Nir Uriel, Roberto M. Lang, Karima Addetia. University of Chicago Medical Center, Chicago, IL

Disclosures: E. J. Kruse – 2 (Lantheus Medical Imaging); N. Uriel – 2 (Thoratec); R. M. Lang – 2 (Philips)

### PI-180

#### **Persistence of Higher Concordance of Strain Over Ejection Fraction for Evaluation of Left Ventricular Function: Results from the SUCCOUR Trial**

Tomoko Negishi<sup>1</sup>, Kazuaki Negishi<sup>1</sup>, Mark Nolan<sup>1</sup>, Nobuaki Fukuda<sup>2</sup>, Hirotugu Yamada<sup>3</sup>, Julie Lemieux<sup>4</sup>, Koji Kurosawa<sup>5</sup>, Krassimira Hristova<sup>6</sup>, Martin Penicka<sup>7</sup>, Bogdan A. Popescu<sup>8</sup>, Dragos Vinereanu<sup>8</sup>, Paaladinesh Thavendiranathan<sup>9</sup>, Goo-Yeong Cho<sup>10</sup>, Thomas H. Marwick<sup>1,11</sup>. <sup>1</sup>University of Tasmania, Menzies Institute for Medical Research, Hobart, Australia; <sup>2</sup>Takasaki General Medical Center, Takasaki, Japan; <sup>3</sup>Tokushima University, Tokushima, Japan; <sup>4</sup>Centre de recherche du CHU de Québec, Québec, QC, Canada; <sup>5</sup>Gunma University, Maebashi, Japan; <sup>6</sup>National Heart Hospital, Sofia, Bulgaria; <sup>7</sup>Cardiovascular Center Aalst, Aalst, Belgium; <sup>8</sup>University of Medicine and Pharmacy Carol Davila, Bucharest, Romania; <sup>9</sup>University of Toronto, Toronto General Hospital, Peter Munk Cardiac Center, Toronto, ON, Canada; <sup>10</sup>Seoul National University Bundang Hospital, Seongnam, Republic of Korea; <sup>11</sup>Baker IDI Heart & Diabetes Institute, Melbourne, Australia

### PI-181

#### **Lipopolysaccharide-induced Myocardial Dysfunction can be Detected by Circumferential Strain Rate**

Di Xu<sup>1</sup>, Yao Gao<sup>2</sup>. <sup>1</sup>First Affiliated Hospital with Nanjing Medical University, Nanjing, China; <sup>2</sup>Nanjing Medical University, Nanjing, China

### PI-182

#### **Utility of Echocardiographic Particle Image Velocimetry Analysis During Ramp Studies**

Diego Medvedofsky, Eric Kruse, Karima Addetia, Victor Mor-Avi, Gabriel Sayer, Sirtaz Adatya, Gene Kim, Nitasha Sarswat, Takeyoshi Ota, Valluvan Jeevanandam, Nir Uriel, Roberto M. Lang. University of Chicago, Chicago, IL

Disclosures: V. Jeevanandam – 2 (Thoratec, ReliantHeart, HeartWare); N. Uriel – 2 (HeartWare, Thoratec, Abiomed, Medtronic); R. M. Lang – 1 (Philips)

### PI-183

#### **Fully Automated Triplane Global and Segmental Left Ventricular Strain in Clinical Echocardiography: Ready for Prime Time?**

Ameya Kutty<sup>1</sup>, Paul Homer<sup>1</sup>, Jennifer Winter<sup>1</sup>, Mary Craft<sup>1</sup>, Berthold

Klas<sup>2</sup>, Shelby Kutty<sup>1</sup>, David Danford<sup>1</sup>. <sup>1</sup>University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE; <sup>2</sup>TomTec Imaging Systems, Unterschleissheim, Germany

Disclosures: B. Klas – 5 (TomTec)

### PI-184

#### **Molecular Imaging of Inflammation Injuries in the Procession of Atherosclerosis with Microbubbles Targeted to Vascular Cell Adhesion Molecule-1**

Yani Liu, Jie Tian, Jun Zhang, Ruiyin Sun. Tongji Hospital, Wuhan, China

### PI-185

#### **Proposal for Contrast-enhanced 2D Echocardiography Reference Values in Females**

Riitta Paakkanen<sup>1</sup>, Weimin He<sup>1</sup>, Ian Paterson<sup>1</sup>, Edith Pituskin<sup>2</sup>, Eila Mirhadi<sup>1</sup>, Jonathan Choy<sup>1</sup>, John Mackey<sup>2</sup>, Harald Becher<sup>1</sup>. <sup>1</sup>University of Alberta Hospital, Edmonton, AB, Canada; <sup>2</sup>Cross Cancer Institute, Edmonton, AB, Canada

Disclosures: J. Choy – 1 (Philips Healthcare); H. Becher – 1, 2 (Bracco)

### PI-186

#### **Impact of Contrast-enhanced Carotid Ultrasonography for Evaluation of Vasa Vasorum in Young Patients with Familial Hypercholesterolemia**

Nobutaka Noto, Akiko Komori, Masataka Kato, Hirofumi Watanabe, Takahiro Nakamura, Hiroshi Kamiyama, Mamoru Ayusawa, Shori Takahashi. Nihon University, Tokyo, Japan

### PI-187

#### **Speckle Tracking Echocardiography Assesses Effect of Qili Qiangxin Capsule on Doxorubicin-induced Cardiomyopathy**

Yao Gao<sup>1</sup>, Di Xu<sup>2</sup>. <sup>1</sup>Nanjing Medical University, Nanjing, China; <sup>2</sup>The First Affiliated Hospital of Nanjing Medical University, Nanjing, China

### PI-188

#### **Comparison of Shear Wave Elastography Measurements in Plaques with and without Presence of Intraplaque Neovascularization as Determined Using Microbubble Enhanced Ultrasound**

Runqing Huang<sup>1</sup>, Matthew W. Urban<sup>1</sup>, Sahar S. Abdelmoneim<sup>2</sup>, Eric J. Dailey<sup>1</sup>, Mary E. Hagen<sup>1</sup>, Sharon L. Mulvagh<sup>1</sup>. <sup>1</sup>Mayo Clinic, Rochester, MN; <sup>2</sup>Harrington Heart & Vascular Institution, Cleveland, OH

### PI-189

#### **Validation of Automated Measurement of Left Ventricular Ejection Fraction and Volume Using the Phillips EPIQ System**

Qi Zheng<sup>1</sup>, Theresa Win<sup>1</sup>, Ninel Hovnanians<sup>2</sup>, Cynthia Taub<sup>1</sup>. <sup>1</sup>Montefiore Medical Center/Albert Einstein School of Medicine, Bronx, NY; <sup>2</sup>Jacobi Medical Center, Bronx, NY

### PI-190

#### **Expert vs. Novice Comparison of Machine Learning-enabled Automatic Image Analysis of Left Ventricular Function**

Ameya Kutty<sup>1</sup>, Paul Homer<sup>1</sup>, Casey Krohn<sup>1</sup>, Mary Craft<sup>1</sup>, Berthold Klas<sup>2</sup>, David Danford<sup>1</sup>, Shelby Kutty<sup>1</sup>. <sup>1</sup>University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE; <sup>2</sup>TomTec Imaging Systems, Corrales, NM

Disclosures: B. Klas – 5 (TomTec)

### PI-191

#### Single Center Retrospective Cohort Study of Impact of Contrast-enhanced Transthoracic Echocardiography on Evaluation of Left Ventricular Thrombus and Anticoagulation

Khalid Pasha, Brian Page. University at Buffalo, Buffalo, NY

### PI-192

#### Ultrasound-Targeted SDF-I-loaded Microbubble Destruction Promoting the Homing and Repairing Capability of Hypoxic Preconditioned Mesenchymal Stem Cells after Myocardial Ischemia

Lu Li, Shengzheng Wu, Zheng Liu, Yunhua Gao, Yali Xu. Department of Ultrasound, Xinqiao Hospital, The Third Military Medical University, Chongqing, China

## VASCULAR DISEASE

### P1-193 THROUGH P1-202

### PI-193



#### Assessment of Mid Ascending Aortic Diameter by Transthoracic Echocardiography: Age and Sex Specific Reference Values in Adults with and without Systemic Hypertension

Gautam Kumar<sup>1</sup>, Chadi Ayoub<sup>2</sup>, Prabin Thapa<sup>2</sup>, Fletcher A. Miller<sup>2</sup>, Peter C. Spittell<sup>2</sup>. <sup>1</sup>Emory University School of Medicine, Atlanta, GA; <sup>2</sup>Mayo Clinic, Rochester, MN

### PI-194

#### Quantitative Ultrasound Evaluation of the Changes on Tissue Characteristics of Carotid Plaques by Lipid Lowering Therapy

Rie Amano<sup>1</sup>, Hirotsugu Yamada<sup>1</sup>, Mika Bando<sup>2</sup>, Rina Tamai<sup>1</sup>, Yuta Torii<sup>1</sup>, Susumu Nishio<sup>1</sup>, Hiromitsu Seno<sup>1</sup>, Kenya Kusunose<sup>1</sup>, Masataka Sata<sup>1</sup>. <sup>1</sup>Tokushima University Hospital, Tokushima, Japan; <sup>2</sup>Saiseikai Kumamoto Hospital, Kumamoto, Japan

### PI-195

#### Brachial Flow-mediated Dilatation is Associated with Pulmonary Artery Pressure in Scleroderma

Leah M. Wright<sup>1</sup>, Nathan Dwyer<sup>2</sup>, Thomas Marwick<sup>1</sup>. <sup>1</sup>Baker IDI, Melbourne, Australia; <sup>2</sup>Royal Hobart Hospital, Hobart, Australia

### PI-196

#### Development of a Standard Carotid Artery Ultrasound Phantom to Characterize Plaque Density

Olivia Yau, Amer Johri. Queen's University, Kingston, ON, Canada

### PI-197

#### Quantification of Aortic Stiffness Using Speckle Tracking Imaging in Altered Notch1 Signaling Murine Model

Ming Chu, Di Xu, Bin Zhou. First Affiliated Hospital with Nanjing Medical University, Nanjing, China

### PI-198

#### Does Aortic Stiffness Precedes, Follows, or Occurs Simultaneously with Aortic Atherosclerosis?

Paola C. Roldan<sup>1</sup>, Theingi Tiffany Win<sup>2</sup>, Luis P. Roldan<sup>2</sup>, Michelle Ratliff<sup>2</sup>, Richard Snider<sup>2</sup>, Carlos A. Roldan<sup>2</sup>. <sup>1</sup>University of Colorado, Denver, CO; <sup>2</sup>University of New Mexico, Albuquerque, NM

### PI-199

#### Histopathological Validation of Novel Gray Scale Carotid Plaque Characteristics Related to Plaque Vulnerability

Carol Mitchell, James H. Stein, Thomas D. Cook, Shahriar Salamat, Xiao Wang, Tomy Varghese, Daren C. Jackson, Carolina Sandoval Garcia, Stephanie M. Wilbrand, Robert J. Dempsey. University of Wisconsin-Madison, Madison, WI

Disclosures: T. D. Cook – 2 (GlaxoSmithKline, Bristol-Myers Squibb, Merck, Mast Therapeutics); T. Varghese – 6 (Siemens Ultrasound)

### PI-200

#### Abnormal Right Ventricle on Echocardiography in Pulmonary Hypertension is Indicative of Severe Degree of non Group 2 or Mixed Pulmonary Hypertension

Chandra Katikireddy, Bhavik Khatri. VA Central California Health System, UCSF Fresno, Fresno, CA

### PI-201

#### The Value of Diastolic Flow Reversal at Descending Thoracic Aorta as a Determinant of Aortic Stiffness

Hack-Lyoung Kim, Yu Nui Kim, Jae-Bin Seo, Joo-Hee Zo. Boramae Medical Center, Seoul, Republic of Korea

### PI-202

#### Anomalous Pulmonary Venous Connections: Comparison of the Diagnostic Accuracy by Echocardiography versus Surgery in 84 Patients Studied Between 2008 and 2014 at a Single Medical Center

Mingxing Xie<sup>1</sup>, Li Zhang<sup>1</sup>, Zi Ming Zhang<sup>1</sup>, Bing Wang<sup>1</sup>, Xing Zhen Sun<sup>1</sup>, Guo Nian Dong<sup>2</sup>, Hua Guo Wang<sup>1</sup>, Qing Lv<sup>1</sup>, Feng Xie<sup>3</sup>, Man Yu Li<sup>1</sup>. <sup>1</sup>Department of Ultrasound, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China; <sup>2</sup>Department of Cardiovascular Surgery, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China; <sup>3</sup>Department of Cardiovascular Medicine, University of Nebraska Medical Center, Omaha, NE

## ECHOCARDIOGRAPHY IN SOE / ARRHYTHMIAS / ATRIAL FUNCTION

### P1-203 THROUGH P1-212

### PI-203 MODERATED POSTER

#### Prognostic Value of Global Longitudinal Strain by 2-dimensional Speckle Tracking Imaging in Patients with Left Bundle Branch Block

In-Chang Hwang, Goo-Yeong Cho, Yeonyee E. Yoon, Jin Joo Park. Seoul National University Bundang Hospital, Seongnam, Republic of Korea

### PI-204 MODERATED POSTER

#### Stage I Diastolic Functional Class Predicts Favorable Outcome Following Echo-guided AV Delay Optimization in Cardiac Resynchronization Therapy Independent of Age, Sex, NYHA Class and Systolic Function: Single Center Experience with 1,951 Patients

Srikanth Koneru, Paul Cremer, Zoran B. Popovic, Patrick Tchou, Bruce Wilkoff, Richard Grimm. Cleveland Clinic Foundation, Cleveland, OH

### **PI-205 MODERATED POSTER**

#### **Batrial and Biventricular Cardiac Function in Patients with Constrictive Pericarditis**

Veena Raizada<sup>1</sup>, Arnav Kumar<sup>2</sup>, Kimi Sato<sup>2</sup>, Alaa Alashi<sup>2</sup>, Deborah Agler<sup>2</sup>, Deborah Kwon<sup>2</sup>, Allan L. Klein<sup>2</sup>. <sup>1</sup>University of New Mexico, Albuquerque, NM; <sup>2</sup>Cleveland Clinic, Cleveland, OH

### **PI-206**

#### **Use of LA Strain and Stiffness to Categorize Diastolic Dysfunction in Patients with Preserved LV Ejection Fraction**

Amita Singh, Karima Addetia, Francesco Maffessanti, Victor Mor-Avi, Roberto Lang. University of Chicago Medical Center, Chicago, IL

### **PI-207**

#### **Simultaneous 4-Chamber Longitudinal Strain and Mortality in Severe Pulmonary Hypertension**

Amita Singh, Kanako Kishiki, Akhil Narang, Francesco Maffessanti, Mardi Gomberg, Victor Mor-Avi, Roberto M. Lang, Karima Addetia. University of Chicago Medical Center, Chicago, IL

### **PI-208**

#### **Evaluation of Atrial Electromechanical Characteristics by Tissue Doppler Imaging and Prediction Recurrence of Atrial Fibrillation after Successful Radio Frequency Catheter Ablation**

Tuan-tuan Tan, Qing Zhou, Bo Hu, Jin-ling Chen, Hong-ning Song, Rui-qiang Guo. Renmin Hospital of Wuhan University, China, Wuhan City, China

### **PI-209**

#### **Value of Left Atrial Metrics as a Cardiac-biomarker in Chronic Kidney Disease**

Krishna K. Kadappu<sup>1</sup>, Lawrance Cai<sup>2</sup>, David Thomas<sup>3</sup>, Wei Xuan<sup>4</sup>, John K. French<sup>5</sup>, Liza Thomas<sup>6</sup>. <sup>1</sup>South Western Clinical School, University of New South Wales and Western Sydney, Campbelltown and Liverpool Hospital, Campbelltown, Australia; <sup>2</sup>South Western Clinical School, University of New South Wales, Liverpool Hospital, Liverpool, Australia; <sup>3</sup>Biochemistry Department, Liverpool Hospital, Liverpool, Australia; <sup>4</sup>Ingham Institute, Liverpool, Liverpool, Australia; <sup>5</sup>South Western Clinical School, University of New South Wales, Liverpool Hospital, Liverpool, Australia; <sup>6</sup>South Western Clinical School, University of New South Wales and University of Sydney, Liverpool and Westmead Hospital, Westmead, Australia

### **PI-210**

#### **Left Atrial Appendage Size and Thrombus in Matched Patients with Atrial Fibrillation: Implications in the Era of Percutaneous Left Atrial Appendage Occlusion**

Paul C. Cremer, Jorge Betancor, Kunal Patel, Leonardo L. Rodriguez, Wael Jaber, Richard Grimm. Cleveland Clinic, Cleveland, OH

### **PI-211**

#### **Left Atrial Strain for the Evaluation of Left Ventricular Filling Pressure. Comparison with Standard Echocardiographic Criteria Using Mitral Valve and Tissue Doppler**

Sophie D. Barbant<sup>1</sup>, Aarti Kale<sup>2</sup>, Marina Triletskaya<sup>1</sup>, Miranda Weintraub<sup>1</sup>, Darwin Pastor<sup>1</sup>, Clare Waterloo<sup>1</sup>, Walter Stullman<sup>1</sup>, Thomas Frohlich<sup>1</sup>. <sup>1</sup>Alameda Health System, Oakland, CA; <sup>2</sup>Women's Cancer Center at Stanford School of Medicine, Palo Alto, CA

### **PI-212**

#### **Attentive Assessment of Left Ventricular Diastolic Function in Patients with Paroxysmal Atrial Fibrillation**

Risako Tanaka<sup>1</sup>, Kunihiko Sugimoto<sup>1</sup>, Hitoshi Inuzuka<sup>1</sup>, Satsuki Ito<sup>1</sup>, Miho Kato<sup>1</sup>, Ayaka Higashimoto<sup>1</sup>, Shinji Jinno<sup>1</sup>, Junichi Ishii<sup>2</sup>, Akira Yamada<sup>2</sup>, Yukio Ozaki<sup>2</sup>. <sup>1</sup>Fujita Health University Hospital, Toyoake, Japan; <sup>2</sup>Fujita Health University, Toyoake, Japan



# Poster Session 2 (P2)

## R POSTER SESSION 2 (P2)

Presented: 9:00 AM – 4:00 PM

### EXHIBIT & POSTER HALL

Meet the Investigators: 12:00 – 1:15 PM

Moderated Poster Session: 12:00 – 1:15 PM

Moderators: A. Weyman, G. Rose, N. Pandian, F. Chaudhry,  
M. Keane, P. Pellikka, H. Leong-Poi, K. Spencer, M. Quinones,  
G. Whalley

#### TOPICS

3D Echocardiography..... P2-01 through P2-25

Echocardiography in Systemic Disease  
(DM, HTN, Obesity, Cancer) / Pericardial /  
Primary Myocardial.....P2-26 through P2-62

Doppler /  
Hemodynamics .....P2-63 through P2-88

Ischemic Heart Disease ...P2-89 through P2-98

Emerging Use of  
Echocardiography / Point of Care  
Echocardiography .....P2-99 through P2-112

Ventricular Function /  
Myocardial Mechanics.. P2-113 through P2-160

Clinical Cases: Cardiovascular  
Ultrasound Imaging in Diagnosis,  
Clinical Decision-Making, and Patient  
Management ..... P2-161 through P2-219

Author Disclosure Key: 1) Speakers' Bureau; 2) Consultant/Advisor;  
3) Stock Ownership (not including stocks owned in a managed  
portfolio); 4) Research Grant (as principal investigator);  
5) Employment Affiliation; 6) Royalty/Patents

## 3D ECHOCARDIOGRAPHY

### P2-01 THROUGH P2-25

#### P2-01 MODERATED POSTER

**Application of Echocardiographic Three-dimensional  
Printed Left Atrial Appendage Model to Guide**

**Transcatheter Left Atrial Appendage Occlusion**

Hong-ning Song, Rui-qiang Guo, Qing Zhou, Bo Hu, Jin-ling Chen,  
Lan Zhang, Renmin Hospital of Wuhan University, Wuhan City, China

#### P2-02 MODERATED POSTER

**Evaluation of Left Ventricular Twist and Synchrony  
in Patients with Lymphoma Received Anthracycline**

**Therapy by Three-dimensional Speckle Tracking**

**Echocardiography: A Large Single Center Clinical Study**

Feiyan Song, Leilei Cheng, Jing Shi, Chujie Zhang, Xianhong Shu,  
Zhongshan Hospital, Fudan University, Shanghai, China

#### P2-03 MODERATED POSTER

**Three Dimensional Right Atrial Speckle Tracking**

**Echocardiography as a New Predictor of Clinical**

**Outcome in Patients with Pulmonary Hypertension**

Masataka Sugahara, Zhi Qi, Rishin Handa, Marc Simon, Michael  
Mathier, John Gorcsan, III. University of Pittsburgh, Pittsburgh, PA

Disclosures: J. Gorcsan – 4 (Biotronik, GE, Medtronic, St. Jude  
Medical, Toshiba)

#### P2-04 MODERATED POSTER

**Prediction of the Origin of the Culprit Chord in P2**

**Prolapse or Flail Leaflet: Does it Originate from the**

**Anterior or Posterior Papillary Muscle?**

Kikuko Obase<sup>1</sup>, Husam H. Balkhy<sup>2</sup>, Valluvan Jeevanandam<sup>2</sup>, Shiro  
Uemura<sup>1</sup>, Roberto Lang<sup>2</sup>. <sup>1</sup>Kawasaki Medical school, Kurashiki, Japan;

<sup>2</sup>University of Chicago, Chicago, IL

#### P2-05

**Separate Quantification of Longitudinal and**

**Radial Motion of the Right Ventricle Using 3D**

**Echocardiography**

Attila Kovács<sup>1</sup>, Zoltán Töser<sup>2</sup>, Bálint Lakatos<sup>1</sup>, Márton Tokodi<sup>1</sup>,  
Annamária Kosztin<sup>1</sup>, Alexandra Assabiny<sup>1</sup>, Balázs Sax<sup>1</sup>, Béla Merkely<sup>1</sup>.

<sup>1</sup>Heart and Vascular Center, Budapest, Hungary; <sup>2</sup>Department of  
Software Technology and Methodology, Eötvös Loránd University,  
Budapest, Hungary

#### P2-06

**Measurement of the Right Ventricular Pressure Volume**

**Curve by 3D Transesophageal Echocardiography**

Shinya Kato, Kenji Yohitani, Yoshihiko Ohnishi. National Cerebral  
and Cardiovascular Center, Suita, Japan

#### P2-07

**Non-invasive Evaluation of the Dynamic Heart**

**Function Using Four-dimensional Echocardiography**

Ran Chen, Meihua Zhu, Muhammad Ashraf, David J. Sahn. Oregon  
Health & Science University, Portland, OR



## P2-08

### Verification of Pacemaker Lead Tip Location Using 3D Echocardiography: An Alternative to Chest X-ray or Biplane Fluoroscopy?

Dave Pandya, Karima Addetia, Megan Yamat, Anuj Mediratta, Joshua D. Moss, Hemal Nayak, Martin Burke, Roderick Tung, Victor Mor-Avi, Roberto M. Lang, Gaurav A. Upadhyay. University of Chicago, Chicago, IL

## P2-09

### Feasibility, Accuracy and Reproducibility of Aortic Annular and Root Sizing in Transcatheter Valve Implantation Using Novel Three-dimensional Automated Software: Comparison with Multi-detector Row Computed Tomography

Edgard A. Prihadi, Philippe J. van Rosendaal, Mara Vollema, Jeroen J. Bax, Victoria Delgado, Nina A. Marsan. Leids Universitair Medisch Centrum, Leiden, Netherlands

Disclosures: V. Delgado – 1 (Abbott Vascular)

## P2-10

### A Novel Approach to Fuse Parasternal and Apical 3D Echocardiography Datasets

Kumaradevan Punithakumar, Abhilash Hareendranathan, Alexander McNulty, Marina Biamonte, Allen He, Michelle Noga, Pierre Boulanger, Harald Becher. University of Alberta, Edmonton, AB, Canada

## P2-11

### Prospective Assessment of Incidence and Mechanisms of Tricuspid Regurgitation Post Endocardial Lead Placement

Kalilur Anvardeen, Hongyan Dai, Karen Hay, Rajeev Rao, Samir Hazra, Nick Stoyanov, Seeger Shen, David Birnie, Girish Dwivedi, Kwan-Leung Chan. University of Ottawa Heart Institute, Ottawa, ON, Canada

## P2-12

### Right Ventricular Systolic Deformation is Diminished in Patients with Pulmonary Hypertension: A Three-dimensional Speckle Tracking Imaging Study

Yuman Li, Mingxing Xie, Mengmei Li, Lei Li. Department of Ultrasound, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

## P2-13

### Mitral Valve Mapping of Tethering Patterns in Ischemic Mitral Regurgitation by 3D Echocardiography Analysis

Romain Capoulade, Mark D. Handschumacher, Chritos G. Mihos, Xin Zeng, Jonathan G. Teoh, Yong H. Park, Philipp Bartko, David A. D'Alessandro, Serguei Melnitchouk, Robert A. Levine, Judy W. Hung. Massachusetts General Hospital, Boston, MA

## P2-14

### Early Left Atrial Dysfunction in Patients Treated with Anthracyclines Assessed by Real-time Three-dimensional Echocardiography

Jing Shi<sup>1</sup>, Ye Guo<sup>2</sup>, Leilei Cheng<sup>1</sup>, Feiyan Song<sup>1</sup>, Xianhong Shu<sup>1</sup>. <sup>1</sup>Zhongshan Hospital, Fudan University, Shanghai, China; <sup>2</sup>Department of Medical Oncology, Fudan University Shanghai Cancer Center, Shanghai, China

## P2-15

### Inter- and Intra-reader Reproducibility of Left Ventricular Volumetric and Deformational Assessment

### by Three-dimensional Echocardiography in a Multi-center Community-based Study: The Coronary Artery Risk Development in Young Adults (CARDIA) Study

Chike C. Nwabuo<sup>1</sup>, Henrique T. Moreira<sup>1</sup>, Henrique D. Vasconcellos<sup>1</sup>, Guilherme Yared<sup>1</sup>, Bharath Ambale-Venkatesh<sup>1</sup>, Jared P. Reis<sup>2</sup>, Donald Lloyd-Jones<sup>3</sup>, Pamela J. Schreiner<sup>4</sup>, Cora E. Lewis<sup>5</sup>, Steve Sidney<sup>6</sup>, Kofo Ogunyankin<sup>3</sup>, Samuel S. Gidding<sup>7</sup>, Joao A.C. Lima<sup>1</sup>. <sup>1</sup>Johns Hopkins University, Baltimore, MD; <sup>2</sup>National Heart, Lung, and Blood Institute, Bethesda, Bethesda, MD; <sup>3</sup>Northwestern University Feinberg School of Medicine, Chicago, IL; <sup>4</sup>University of Minnesota, Minneapolis, MN; <sup>5</sup>University of Alabama at Birmingham, Birmingham, AL; <sup>6</sup>Kaiser Permanente, Division of Research, Oakland, CA; <sup>7</sup>Nemours Foundation, Wilmington, DE

## P2-16

### Patient Specific Three-dimensional Printing of the Calcified Mitral Valve

Edinrin Obasare<sup>1</sup>, Emmanuel Melendres<sup>1</sup>, Chinualumogu Nwakile<sup>1</sup>, Deepakraj Gajanana<sup>1</sup>, Solomon Samuel<sup>1</sup>, Lyes Kadem<sup>2</sup>, Alison M. Pouch<sup>3</sup>, Gregg Pressman<sup>1</sup>. <sup>1</sup>Einstein Medical Center, Philadelphia, PA; <sup>2</sup>Concordia University, Montreal, QC, Canada; <sup>3</sup>University of Pennsylvania, Philadelphia, PA

## P2-17

### Right Ventricular Longitudinal Strain by Three-dimensional Speckle Tracking Echocardiography: Comparison Between Vendor-dependent and Vendor-independent Softwares

Arnav Kumar<sup>1</sup>, Kimi Sato<sup>1</sup>, Meneleo Dimaano<sup>2</sup>, Masood Ahmad<sup>2</sup>. <sup>1</sup>Cleveland Clinic, Cleveland, OH; <sup>2</sup>University of Texas Medical Branch, Galveston, TX

## P2-18

### Left Ventricular Wall Motion Analysis of Young Heart by Three Dimensional Speckle Tracking Echocardiography

Kentaro Akagi<sup>1</sup>, Masaki Nii<sup>1</sup>, Keisuke Sato<sup>1</sup>, Jun Yoshimoto<sup>1</sup>, Norie Mitsushita<sup>1</sup>, Sung Hae Kim<sup>1</sup>, Yasuo Ono<sup>1</sup>, Ken Takahashi<sup>2</sup>, Kiyohiro Takigiku<sup>3</sup>, Manatomo Toyono<sup>4</sup>, Satoru Iwashima<sup>5</sup>, Nao Inoue<sup>6</sup>. <sup>1</sup>Shizuoka Children's Hospital, Shizuoka, Japan; <sup>2</sup>Juntendo University of Medicine, Tokyo, Japan; <sup>3</sup>Nagano Children's Hospital, Nagano, Japan; <sup>4</sup>Akita University Graduate School of Medicine, Akita, Japan; <sup>5</sup>Hamamatsu University School of Medicine, Shizuoka, Japan; <sup>6</sup>Seirei Hamamatsu General Hospital, Shizuoka, Japan

## P2-19

### Assessment 2D and 3D Global Longitudinal Strain of Abnormal LV Myocardial Deformation Properties Using 3D Speckle-tracking Echocardiography in Young HCM

Qian Yang<sup>1</sup>, Lei Zuo<sup>1</sup>, Peng Tang<sup>2</sup>, Xiaodong Zhou<sup>1</sup>, Liwen Liu<sup>1</sup>, Shuping Ge<sup>3</sup>. <sup>1</sup>Department of Ultrasound, Xijing Hospital, Fourth Military Medical University, Xi'an, China; <sup>2</sup>Department of Orthopedics, Xijing Hospital, Fourth Military Medical University, Xi'an, China; <sup>3</sup>St. Christopher's Hospital for Children, Drexel University College of Medicine, Philadelphia, PA

## P2-20

### Dynamic Systolic Changes in Tricuspid Regurgitation Vena Contracta Size and Proximal Isovelocity Surface Area on Color Doppler Three-dimensional Echocardiography

Ling Li<sup>1</sup>, Shelby Kutty<sup>1</sup>, Collin Erickson<sup>1</sup>, Timothy M. Colen<sup>2</sup>, David Danford<sup>1</sup>, Jeffrey Smallhorn<sup>3</sup>, Nee Sze Khoo<sup>2</sup>. <sup>1</sup>University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE; <sup>2</sup>University

of Alberta, Edmonton, AB, Canada; <sup>3</sup>Stollery Childrens Hospital, University of Alberta, Edmonton, AB, Canada

## P2-21

### Association of Left Atrial Volumes with Left Ventricular Structure and Function by Three-dimensional Echocardiography: The Coronary Artery Development in Young Adults (CARDIA) Study

Henrique D. Vasconcellos<sup>1</sup>, Henrique T. Moreira<sup>1</sup>, Chike C. Nwabuo<sup>1</sup>, Guilherme S. Yared<sup>1</sup>, Bharat A. Vendkatesh<sup>1</sup>, Anderson C. Armstrong<sup>1</sup>, Jared P. Reis<sup>2</sup>, Donald M. Lloyd-Jones<sup>3</sup>, Pamela J. Schreiner<sup>4</sup>, Cora E. Lewis<sup>5</sup>, Stephen Sidney<sup>6</sup>, Samuel S. Gidding<sup>7</sup>, Joao A.C. Lima<sup>1</sup>. <sup>1</sup>Johns Hopkins, Baltimore, MD; <sup>2</sup>National Heart, Lung, and Blood Institute, Bethesda, MD; <sup>3</sup>Northwestern University Feinberg School of Medicine, Chicago, IL; <sup>4</sup>University of Minnesota, Minneapolis, MN; <sup>5</sup>University of Alabama at Birmingham, Birmingham, AL; <sup>6</sup>Kaiser Permanente, Division of Research, Oakland, CA; <sup>7</sup>Nemours Foundation, Wilmington, DE

## P2-22

### Correlation of 2 Dimensional and 3 Dimensional Echocardiographic Analysis to Surgical Measurements of the Tricuspid Valve Annular Diameter

Himani V. Bhatt<sup>1</sup>, John Spivack<sup>1</sup>, Pritul R. Patel<sup>2</sup>, Ahmed El-Eshmawi<sup>1</sup>, David H. Adams<sup>1</sup>, Gregory W. Fischer<sup>1</sup>. <sup>1</sup>Icahn School of Medicine at Mount Sinai, New York, NY; <sup>2</sup>David Geffen School of Medicine at UCLA, Los Angeles, CA

Disclosures: D. H. Adams – 2 (Edwards Lifesciences, Medtronic)

## P2-23

### Does Volume Rate Matter? Understanding Temporal Resolution for Mitral Valve Analysis

Tawai Ngernsritrakul<sup>1,2</sup>, Joseph Gnanaraj<sup>1</sup>, Ben A. Lin<sup>1</sup>, Rachel Kaplan<sup>1</sup>, Oraporn See<sup>2</sup>, Lissa Sugeng<sup>1</sup>. <sup>1</sup>Yale University, New Haven, CT; <sup>2</sup>Ramathibodi Hospital, Bangkok, Thailand

Disclosure: L. Sugeng – 4 (Siemens)

## P2-24

### Three-dimensional Echocardiographic Approach for Automated Quantification of Left Ventricular Volume Using Adaptive Analytics Algorithm: Comparison Against Two-dimensional Echocardiography

Lynn Weinert, Diego Medvedofsky, Victor Mor-Avi, Roberto M. Lang. University of Chicago, Chicago, IL

Disclosures: R. M. Lang – 1 (Philips)

## P2-25

### Assessment of the Size and Function of Left Atrial Appendage by Three Dimensional Transesophageal Echocardiography

Go Hashimoto, Makoto Suzuki, Kenji Makino, Hiromasa Hayama, Yukiko Isekame, Hisao Yoshikawa, Takenori Otsuka, Hidehiko Hara, Masao Moroi, Masato Nakamura. Toho University Ohashi Medical Center, Tokyo, Japan

## ECHOCARDIOGRAPHY IN SYSTEMIC DISEASE (DM, HTN, OBESITY, CANCER) / PERICARDIAL / PRIMARY MYOCARDIAL

### P2-26 THROUGH P2-62

## P2-26 MODERATED POSTER

### Global Longitudinal Strain Independently Predicts Outcomes in Hypertrophic Cardiomyopathy

Hongyun Liu, Iraklis Pozios, Bereketeab Haileselassie, Alexandra Nowbar, Lars Sorensen, Susan Phillip, Dai-Yin Lu, Ioannis Ventoulis, Hongchang Luo, Roselle Abraham, Theodore Abraham. Johns Hopkins HCM Center of Excellence, Baltimore, MD

## P2-27 MODERATED POSTER

### Unique Abnormalities in Right Ventricular Longitudinal Strain in Scleroderma

Monica Mukherjee, Shang-En Chung, Von Khue Ton, Ryan J. Tedford, Laura K. Hummers, Fredrick M. Wigley, Theodore P. Abraham, Ami A. Shah. Johns Hopkins University, Baltimore, MD

## P2-28 MODERATED POSTER

### Left Ventricular Diastolic Function in Adult Survivors of Childhood Cancer

Vijaya M. Joshi<sup>1,2,3</sup>, Juan Carlos Plana<sup>4</sup>, Nan Zhang<sup>3</sup>, DeoKumar Srivastava<sup>3</sup>, Kristin K. Ness<sup>3</sup>, Daniel A. Mulrooney<sup>3</sup>, Daniel M. Green<sup>3</sup>, Leslie L. Robison<sup>3</sup>, Melissa M. Hudson<sup>3</sup>, Tom H. Marwick<sup>5</sup>, Gregory T. Armstrong<sup>3</sup>. <sup>1</sup>University of Tennessee College of Medicine, Memphis, TN; <sup>2</sup>Le Bonheur Children's Hospital, Memphis, TN; <sup>3</sup>St. Jude Children's Research Hospital, Memphis, TN; <sup>4</sup>Baylor College of Medicine, Houston, TX; <sup>5</sup>Baker IDI Heart and Diabetes Institute, Melbourne, Australia

## P2-29

### Cardiac Remodeling in the Offspring of Mothers with Diabetes Persists into Early Infancy

Aparna Kulkarni<sup>1</sup>, Ling Li<sup>2</sup>, Sheetal Khiyahi<sup>1</sup>, Barbara Tria<sup>1</sup>, Jose Miguel Lorenzo<sup>1</sup>, Shelby Kutty<sup>2</sup>. <sup>1</sup>Bronx Lebanon Hospital Center, Bronx, NY; <sup>2</sup>Children's Hospital and Medical Center, Omaha, NE

## P2-30

### Echocardiographic Diagnosis of Constrictive Pericarditis: Applying the Mayo Clinic Criteria

Saqer Alkharabsheh, Salima Qamruddin, Arnav Kumar, Neha Gupta, Ahmed El-Telbany, Ayman I. Ayache, Paul Cremer, Douglas Johnston, Allan Klein. Cleveland Clinic Foundation, Cleveland, OH

## P2-31

### Layer Specific Quantification of Myocardial Deformation in Patients with Maintenance Hemodialysis

Minmin Sun, Xuesen Cao, Cuizhen Pan, Xianhong Shu. Zhongshan Hospital, Fudan University, Shanghai, China

## P2-32

### Changes in Echocardiographic Global Longitudinal Strain are Associated with Degree of Neurocardiac Injury in Patients with Subarachnoid Hemorrhage

Zhi Qi, Masataka Sugahara, Elizabeth A. Crago, Yuefang Chang, Theodore F. Lagattuta, Khalil Yousef, Robert M. Friedlander, Marilyn T. Hravnak, John Gorcsan, III. University of Pittsburgh, Pittsburgh, PA

## P2-33

### Cardiac Involvement in Acute Leukemia Patients Assessed by Left Ventricular Global Longitudinal Strain

Bruna M. Assuncao<sup>1</sup>, Timothy Tan<sup>1,2</sup>, Kai-Hung Cheng<sup>1</sup>, Marielle Scherrer-Crosbie<sup>1</sup>. <sup>1</sup>Massachusetts General Hospital, Boston, MA; <sup>2</sup>Blacktown Hospital, University of Western Sydney, Sydney, Australia

## P2-34

### Myocardial Deformation Capacity and Microvascular Coronary Function in Relation to Cardiac Amyloid Deposit Burden

Tor S. Clemmensen<sup>1</sup>, Henning Mølgaard<sup>1</sup>, Hans Eiskjær<sup>1</sup>, Jens Soerensen<sup>2</sup>, Lars P. Tolbod<sup>2</sup>, Hendrik J. Harms<sup>2</sup>, Steen H. Poulsen<sup>1</sup>. <sup>1</sup>Department of Cardiology, Aarhus University Hospital, Aarhus, Denmark; <sup>2</sup>Department of Nuclear Medicine, Aarhus University Hospital, Aarhus, Denmark

## P2-35

### Pertuzumab-Trastuzumab Combination Chemotherapy for Breast Cancer is Associated with Complex but Reversible Hemodynamic Abnormalities

Srikanth Koneru, Adam Goldberg, Shruti Tiwari, Vedha Sanghi, Alberto Montero, Richard Grimm, Leonardo Rodriguez, Milind Desai, Brian P. Griffin, Patrick Collier, Thomas G. Budd, Balaji Tamarappoo, Zoran B. Popovic. Cleveland Clinic Foundation, Cleveland, OH

## P2-36

### Echocardiographic Predictors for Worsening of 6-minute Walk Distance in Patients with Connective Tissue Disease

Yoshihito Saijo, Kenya Kusunose, Hirotugu Yamada, Susumu Nishio, Rie Amano, Yukina Hirata, Hiromitsu Seno, Masataka Sata. Tokushima University Hospital, Tokushima, Japan

## P2-37

### Long-term Remodeling Patterns of the Ventricular Septum are Associated with Ventricular Arrhythmias in Adult Hypertrophic Cardiomyopathy

Hsin-Yueh Liang<sup>1,2</sup>, Blaid Mbiyangandu<sup>2</sup>, Alex Hilser<sup>2</sup>, Roselle Abraham<sup>2</sup>, Theodore Abraham<sup>2</sup>. <sup>1</sup>China Medical University Hospital, Cardiology, Taichung, Taiwan; <sup>2</sup>Johns Hopkins University, School of Medicine, Baltimore, MD

## P2-38

### Tricuspid Annular Plane Systolic Excursion as a Predictor of Clinical Outcomes in Infants with Pulmonary Hypertension Secondary to Congenital Diaphragmatic Hernia

Sherzana Sunderji, Martina Steurer-Muller, Roberta Keller, Michael Brook, Hythem Nawaytou, Anita Moon-Grady, Shabnam Peyvandi. University of California, San Francisco, San Francisco, CA

## P2-39

### A Study of the Prognostic Power of Non-invasively Estimated Pulmonary Artery Systolic Pressure versus Other Echocardiographic Parameters in Individuals with Hypertrophic Cardiomyopathy

Lauren H. Turvey, Amir Aziz, James Hodson, Mohammed Nawaz, Luke Pickup, Paulus Kirchhof, Michael J. Griffith, Peter F. Ludman, Francisco Leyva, Richard P. Steeds, Michael P. Frenneaux, William M. Bradlow. Queen Elizabeth Hospital Birmingham, Birmingham, United Kingdom

## P2-40

### Accuracy of Standard Echocardiography, Cardiac Magnetic Resonance and Derived Lumped Parameter Model for Prediction of Invasive Hemodynamics in Patients with Precapillary Pulmonary Hypertension: A Pilot Study

Diego Bellavia<sup>1</sup>, Giuseppe Romano<sup>1</sup>, Salvatore Pasta<sup>2</sup>, Giovanni Gentile<sup>1</sup>, Francesco Scardulla<sup>3</sup>, Alejandro Frangi<sup>4</sup>, Karim Ledakir<sup>5</sup>, Patrizio Vitulo<sup>1</sup>, Joseph Maalouf<sup>6</sup>, Fletcher A. Miller, Jr.<sup>6</sup>, Gabriele Di Gesaro<sup>1</sup>, Chiara Minà<sup>1</sup>, Giuseppe Raffa<sup>1</sup>, Michele Pilato<sup>1</sup>, Francesco Clemenza<sup>1</sup>, Cesare Scardulla<sup>1</sup>. <sup>1</sup>ISMETT/UPMC, Palermo, Italy; <sup>2</sup>RiMED, Palermo, Italy; <sup>3</sup>University of Palermo, Palermo, Italy; <sup>4</sup>University of Sheffield, Sheffield, United Kingdom; <sup>5</sup>University of Barcelona, Barcelona, Spain; <sup>6</sup>Mayo Clinic and Foundation, Rochester, MN

## P2-41

### Right Atrial Dilatation in Patients Diagnosed with Pulmonary Arterial Hypertension

Anusith Tunhasiriwet, Libo Chen, Carolyn M. Larsen, Rachel J. Le, Cristina Pislaru, Garvan C. Kane. Division of Cardiovascular Disease, Department of Medicine, Mayo Clinic, Rochester, MN

## P2-42

### Differences of Myocardial Mechanics Between Hypertrophic Cardiomyopathy and Concentric Left Ventricular Hypertrophy Using a Novel Transthoracic Echocardiography Multi-layer Strain Technique

Iksung Cho<sup>1</sup>, Islam El-Sayed Shehata<sup>2</sup>, Geu-Ru Hong<sup>1</sup>, In-Cheol Kim<sup>1</sup>, Soo-Youn Lee<sup>1</sup>, Jung-woo Son<sup>1</sup>, In Jeong Cho<sup>1</sup>, Chi Young Shim<sup>1</sup>, Hyuk-Jae Chang<sup>1</sup>, Jong-Won Ha<sup>1</sup>, Namsik Chung<sup>1</sup>. <sup>1</sup>Division of Cardiology, Severance Cardiovascular Hospital, Yonsei University College of Medicine, Seoul, Republic of Korea; <sup>2</sup>Zagazig University, Zagazig, Egypt

## P2-43

### Effect of Hematopoietic Stem Cell Transplantation on Bi-ventricular Function as Assessed by Speckle Tracking Echocardiography

Stuart Covi, Yaddanapudi Ravindranath, Ahmad Farooqi, Sureyya Savasan, Sanjeev Aggarwal. Children's Hospital of Michigan, Detroit, MI

## P2-44

### The Association of Central Aortic Stiffness with Left Atrial Function in Patients with Hypertension: A Study with Speckle-tracking Echocardiography

Darae Kim<sup>1</sup>, Chi Young Shim<sup>1</sup>, Geu-Ru Hong<sup>1</sup>, Sang Jin Ha<sup>2</sup>, In Jeon Cho<sup>1</sup>, Hyuk-Jae Chang<sup>1</sup>, Jong-Won Ha<sup>1</sup>, Namsik Chung<sup>1</sup>. <sup>1</sup>Severance Hospital, Seoul, Republic of Korea; <sup>2</sup>Gangneung Asan Hospital, Gangneung, Republic of Korea

## P2-45

### Evaluation of Long-term Effects of Pericardiectomy on Left Atrial Functions in Constrictive Pericarditis with Speckle Tracking Echocardiography

Li Li, You-Bin Deng, Qiao-Ying Tang, Ya-Ni Liu, Xiao-Jun Bi. Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

## P2-46

### The Prognostic Value of Global Circumferential Strain in Peripartum Cardiomyopathy

Masataka Sugahara<sup>1</sup>, Dennis McNamara<sup>1</sup>, Navin Rajagopalan<sup>2</sup>, Joan Briller<sup>3</sup>, Julie Damp<sup>4</sup>, Gretchen Wells<sup>2</sup>, Mark Drazner<sup>5</sup>, Lori Blauwet<sup>6</sup>,

Leslie Cooper<sup>6</sup>, John Gorcsan, III<sup>1</sup>. <sup>1</sup>University of Pittsburgh, Pittsburgh, PA; <sup>2</sup>University of Kentucky, Lexington, KY; <sup>3</sup>University of Illinois, Chicago, IL; <sup>4</sup>Vanderbilt University, Nashville, TN; <sup>5</sup>University of Texas Southwestern, Dallas, TX; <sup>6</sup>Mayo Clinic, Rochester, MN

Disclosures: J. Gorcsan – 4 (Biotronik, GE, Medtronic, St. Jude Medical, Toshiba)

## **P2-47**

### **The Circumferential Mechanical Deformation Property Derived from STI Could Predict Carotid Arterial Stiffness**

Jing Wang<sup>1</sup>, Benyu Jiang<sup>2</sup>. <sup>1</sup>Department of Ultrasound, Union Hospital, Wuhan, China; <sup>2</sup>Dept. Clinical Pharmacology, London King's College, London, United Kingdom

## **P2-48**

### **Left Ventricular Non Compaction with Systolic Dysfunction. Is the Prognosis Always Ominous?**

Maria S. Andres, Ricardo Ronderos, Silvana Resi, Paola Kuschner, Agustina Sciancalepore, Mirta Diez, Lujan Talavera, Marcelo Trivi, Gustavo Avegliano. ICBA, Buenos Aires, Argentina

## **P2-49**

### **Speckle Tracking Abnormalities of Global Left Ventricle Strain in Children Following Chemotherapy**

Gilda Kadiu, Jyothsna Akam Venkata, Sanjeev Aggarwal. Children's Hospital of Michigan, Detroit, MI

## **P2-50**

### **Clinical Implications of Right Ventricular Strain**

Bianca Ummat<sup>1</sup>, Monica Mukherjee<sup>2</sup>, Helma Parikh<sup>1</sup>, Lynette Craney<sup>1</sup>, Brian G. Choi<sup>1</sup>, Jannet F. Lewis<sup>1</sup>. <sup>1</sup>George Washington University, Washington, DC; <sup>2</sup>Johns Hopkins University, Baltimore, MD

## **P2-51**

### **Right Heart Dysfunction in HFPEF Related to Worsening Renal Function**

Monica Mukherjee, Kavita Sharma, Jose Madrazo, Ryan J. Tedford, Stuart D. Russell, Allison G. Hays. Johns Hopkins University, Baltimore, MD

## **P2-52**

### **Effects of Hydroxyurea on Dilation & Eccentric Hypertrophy in Pediatric Patients with Sickle Cell Anemia**

Elizabeth Mitchell, Olivia Serigano, Dorota Gruber. Cohen Children's Medical Center, Northwell Health System, New Hyde Park, NY

## **P2-53**

### **Right Ventricular Systolic and Diastolic Dysfunction Occurs Early and is Influenced by Left Ventricular Diastolic Dysfunction in AL Amyloidosis**

Ee-May Chia<sup>1</sup>, Queenie Lo<sup>1</sup>, Fiona Kwok<sup>2</sup>, Ming-Wei Lin<sup>2</sup>, David Richards<sup>1</sup>, Liza Thomas<sup>3</sup>. <sup>1</sup>Liverpool Hospital, Liverpool, Australia; <sup>2</sup>Westmead Hospital, Westmead, Australia; <sup>3</sup>Liverpool & Westmead Hospital, Liverpool, Australia

## **P2-54**

### **Left Ventricular Dynamic Changes in Patients with Gestational Diabetes Compared to Normal Pregnancy: A Speckle Tracking Echocardiography Study**

Srinidhi Jayadevappa Meera<sup>1</sup>, Tomo Ando<sup>2</sup>, Cynthia C. Taub<sup>3</sup>. <sup>1</sup>Montefiore Medical Center North Division, Albert Einstein College of Medicine, Bronx, NY; <sup>2</sup>Mount Sinai Beth Israel, Icahn School of Medicine at Mount Sinai, New York, NY; <sup>3</sup>Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, NY

## **P2-55**

### **Anticoagulation and the Development of Hemorrhagic Pericardial Effusions**

Jamal H. Mahar, Saqer Alkharabsheh, Samuel Horr, Allan Klein. Cleveland Clinic Foundation, Cleveland, OH

## **P2-56**

### **Does Elevated Blood Pressure at the Time of Serial Echocardiography Impact the Assessment of Aortic Stenosis?**

Prerna Bansal, Kalyan Chaliki, Vidya Madineedi, Hari P. Chaliki. Mayo Clinic, Scottsdale, AZ

## **P2-57**

### **The Association of Skin to Right Ventricle Distance on Echocardiogram with Metabolic Syndrome**

Saroj Neupane<sup>1</sup>, Deepthi Vodnala<sup>2</sup>, Susan Szpunar<sup>1</sup>, Srujana Chakilam<sup>1</sup>, Renee Bess<sup>1</sup>, Michael Tucciarone<sup>1</sup>, Gerald I. Cohen<sup>3</sup>. <sup>1</sup>St John Hospital and Medical Center, Detroit, MI; <sup>2</sup>University of Missouri-Kansas City, Kansas, MO; <sup>3</sup>St John Hospital and Medical Center, Warren, MI

Disclosures: G. I. Cohen – 1 (Lantheus Medical Imaging)

## **P2-58**

### **Peak Exercise Systolic Strain Rate Predicts Exercise Capacity After Septal Myectomy in Obstructive Hypertrophic Cardiomyopathy**

Hongyun Liu, Iraklis Pozios, Bereketab Haileselassie, Lars Sorensen, Susan Phillip, Hongchang Luo, Roselle Abraham, Theodore Abraham. Johns Hopkins HCM Center of Excellence, Baltimore, MD

## **P2-59**

### **Aortic Intima-media Thickness is Feasible and More Sensitive than Protocols Targeting Other Vessels for Detecting Early Macro-vascular Changes in Children with Type 1 Diabetes at Risk for Micro-vascular Complications**

Christian Lilje<sup>1</sup>, Julie C. Cronan<sup>1</sup>, Jeffrey P. Cardinale<sup>1</sup>, Elizabeth M. Owers<sup>1</sup>, Elridge J. Schwartzenburg<sup>1</sup>, Patrice Clesi<sup>2</sup>, Ricardo Gomez<sup>1</sup>, Sarah Stender<sup>1</sup>, Alfonso Vargas<sup>1</sup>, James M. Hempe<sup>1</sup>, Stuart Chalew<sup>1</sup>. <sup>1</sup>Louisiana State University Health Sciences Center, New Orleans, LA; <sup>2</sup>Children's Hospital, New Orleans, LA

## **P2-60**

### **Endothelial Function as a Potential Marker for Pulmonary Hypertension in Scleroderma**

Leah M. Wright<sup>1</sup>, Nathan Dwyer<sup>2</sup>, Thomas Marwick<sup>1</sup>. <sup>1</sup>Baker IDI, Melbourne, Australia; <sup>2</sup>Royal Hobart Hospital, Hobart, Australia

## **P2-61**

### **Transient Left Ventricular Regional Ballooning During Dobutamine Stress Echocardiography**

Amitoj Singh, Sahil Agrawal, Archana Sinha, Sudip Nanda, Jamshid Shirani. St. Luke's University Health Network, Bethlehem, PA

## **P2-62**

### **2D Longitudinal LV Speckle Tracking Strain Pattern in Breast Cancer Survivors: Sports Activity vs Exercise as Prescription Model**

Laura Stefani, Sr.<sup>1</sup>, Gianni Pedrizzetti, Sr.<sup>2</sup>, Stefano Pedri<sup>1</sup>, Tosi Benedetta<sup>1</sup>, Giorgio Galanti<sup>1</sup>. <sup>1</sup>Sports Medicine Center-University of Florence, Clinical and Experimental Department, Florence, Italy; <sup>2</sup>Architectural and Engineering Department of the University of Trieste, Trieste, Italy



## P2-63 THROUGH P2-88

**P2-63 MODERATED POSTER****Exercise Stress-induced Outflow Tract Gradients Independently Predict Clinical Outcomes in Hypertrophic Cardiomyopathy**

Dai-Yin Lu<sup>1</sup>, Bereketab Hailesealassie<sup>1</sup>, Ioannis Ventoulis<sup>1</sup>, Hong-Yun Liu<sup>1</sup>, Hsin-Yueh Liang<sup>1</sup>, Alexandra Nowbar<sup>2</sup>, Iraklis Pozios<sup>1</sup>, Marco Canepa<sup>1</sup>, Norma Flores<sup>1</sup>, M. Roselle Abraham<sup>1</sup>, Theodore Abraham<sup>1</sup>.  
<sup>1</sup>Johns Hopkins University, Baltimore, MD; <sup>2</sup>National Heart and Lung Institute, Imperial College, London, United Kingdom

**P2-64 MODERATED POSTER****Criteria for Exercise-induced Pulmonary Hypertension Using 6-minute Walk Stress Echocardiography in Patients with Collagen Tissue Disease**

Hirotsugu Yamada, Kenya Kusunose, Yuta Torii, Yoshihito Saijo, Hiromitsu Seno, Yukina Hirata, Rie Amano, Susumu Nishio, Masataka Sata. Tokushima University Hospital, Tokushima, Japan

**P2-65 MODERATED POSTER****Contrast Enhanced Doppler Echocardiography may Overestimate Aortic Stenosis Severity**

Eleonora Avenatti, Dimitrios Maragiannis, Marija Vukicevic, Muaz M. Abudiab, Nickalaus Gramze, Colin M. Barker, Stephen H. Little. Houston Methodist Hospital, Houston, TX

**P2-66 MODERATED POSTER****Clinical Utility of Preload Stress Echocardiography for Predicting Future Pseudo-normal Transmitral Flow Pattern**

Yoshihito Saijo, Hirotsugu Yamada, Kenya Kusunose, Hiromitsu Seno, Susumu Nishio, Rie Amano, Yukina Hirata, Masataka Sata. Tokushima University Hospital, Tokushima, Japan

**P2-67 MODERATED POSTER****Noninvasive Doppler Estimation of Left Ventricular Filling Pressures in Patients with Mitral Annular Calcification**

Muaz M. Abudiab, Lakshmi H. Chebrolu, Robert C. Schutt, Sherif F. Nagueh, William A. Zoghbi. Houston Methodist DeBakey Heart and Vascular Center, Cardiovascular Imaging Center, Houston, TX

**P2-68****Evaluation of Mean Left Ventricular Pressure in Patients with Acute Coronary Syndrome: A Doppler Echocardiographic and Cardiac Catheterization Validation Study**

Ara L. Tachjian, Jason Stencil, Matthew W. Parker, Nikolaos Kakouros, Gerard P. Aurigemma. UMASS, Worcester, MA

**P2-69****Indexing Peak Rapid Filling Velocity to Both Relaxation and Filling Volume to Estimate Left ventricular Filling Pressures**

Steven J. Lavine, Kamesh Sivagnanam. Quillen College of Medicine, Johnson City, TN

Disclosures: S. J. Lavine — 1 (Daiichi Sankyo)

**P2-70****Tricuspid Annular Plane Systolic Excursion and Pulmonary Arterial Systolic Pressure Ratio as a Predictor of Early Right Heart Dysfunction After Left Ventricular Assist Device Implant**

Sophia Airhart, Richard Cheng, James Kirkpatrick, S. Carolina Masri. University of Washington, Seattle, WA

**P2-71****Do Right Ventricular Diastolic Tissue Doppler Parameters Add Diagnostic Value in Pulmonary Hypertension?**

Nishtha Sareen<sup>1</sup>, Aleksandra Mariychina<sup>2</sup>, Cajigas Hector<sup>2</sup>, Meredith Mahan<sup>2</sup>, Karthikeyan Ananthasubramaniam<sup>2</sup>. <sup>1</sup>Mount Sinai Medical Center, New York, NY; <sup>2</sup>Henry Ford Hospital, Detroit, MI

**P2-72****Hemodynamic Modeling of Fetal Aortic and Ductal Arches Using Computational Fluid Dynamics and 3D/4D Spatio-temporal Image Correlation Fetal Echocardiography**

Zhuo Chen<sup>1</sup>, Yihua He<sup>1</sup>, Shengli Li<sup>2</sup>, Hongkai Zhao<sup>3</sup>, Xiaowei Liu<sup>1</sup>, Shuping Ge<sup>1</sup>. <sup>1</sup>Beijing Anzhen Hospital, Capital Medical University, Beijing, China; <sup>2</sup>Department of Laboratory Animal Science, Capital Medical University, Beijing, China; <sup>3</sup>School of Aeronautic Science and Engineering, Beihang University, Beijing, China; <sup>4</sup>St. Christopher's Hospital for Children/Drexel University College of Medicine, Philadelphia, PA

**P2-73****Serial Echocardiographic Assessment of Hemodynamics in Coarctation of Aorta in Fetuses**

Xiaowei Liu<sup>1</sup>, Yihua He<sup>1</sup>, Shuping Ge<sup>2</sup>. <sup>1</sup>Beijing Anzhen Hospital, Capital Medical University, Beijing, China; <sup>2</sup>St. Christopher's Hospital for Children/Drexel University College of Medicine, Philadelphia, PA

**P2-74 WITHDRAWN****P2-75****Noninvasive Measures of Pulmonary Hypertension by Echocardiography in Children with Cardiomyopathy**

Dor Markush, Sanjeev Aggarwal. Children's Hospital of Michigan, Detroit, MI

**P2-76****Assessment of Left Ventricular Cavity Flow, Wall Stress and Energy Loss by Color Doppler Vector Flow Mapping: Feasibility and Findings in Pediatric Cardiomyopathy**

Mary Craft<sup>1</sup>, Connie Casey<sup>2</sup>, Ameya Kutty<sup>1</sup>, Christopher Erickson<sup>1</sup>, Robert Spicer<sup>1</sup>, David Danford<sup>1</sup>, Shelby Kutty<sup>1</sup>. <sup>1</sup>University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE; <sup>2</sup>Hitachi Aloka Medical America, Inc., Wallingford, CT

**P2-77****The Association of LVH with Intraventricular Dyssynchrony at Diastolic Phase During Exercise in Hypertensive Patients**

Hye-Sun Seo<sup>1</sup>, Se-Jung Yoon<sup>2</sup>, Mi-Jeong Kim<sup>3</sup>, In Hyun Jung<sup>4</sup>. <sup>1</sup>Soonchunhyang University Hospital, Bucheon, Republic of Korea; <sup>2</sup>Ilisan Hospital, National Health Insurance Service, Ilisan, Republic of Korea; <sup>3</sup>Incheon St. Mary's Hospital, The Catholic University of Korea, Incheon, Republic of Korea; <sup>4</sup>Inje University Sanggye Paik Hospital, Seoul, Republic of Korea



## P2-78

### Changes in Left Atrial Volume and Diastolic Function in Hypertrophic Obstructive Cardiomyopathy Following Alcohol Septal Ablation

Ashley A. Waring, Barbara E. Griffin, Jeremy D. Rier, John M. Neathawk, Stewart M. Benton, Shawn Shaji, Christopher D. Nielsen, Valerian Fernandes, Sheldon E. Litwin. Medical University of South Carolina, Charleston, SC

## P2-79

### Comparison Between Transcatheter and Surgical Aortic Valve Replacement on the Basis of Effective Orifice Area in Patients with Severe Aortic Stenosis

Hideta Takushi. The Sakakibara Heart Institute of Okayama, Okayama, Japan

## P2-80

### Sum of Doppler Tissue Imaging Lateral Mitral Annular Velocities at Peak Systolic and Early Diastole Discriminates Diseased from Healthy Hearts

Jeffrey M. Tyler, Randell C. Thomas, Qizhi Fang, Dwight Bibby, Nelson B. Schiller. University of California San Francisco, San Francisco, CA

Disclosures: N. B. Schiller – 1 (General Electric Health Care, Lantheus Inc)

## P2-81

### Influence of Acute Hemodynamic Change after Pulmonary Endarterectomy for Chronic Thromboembolic Pulmonary Hypertension on Right Ventricular Function: Right Ventricular Speckle Tracking Strain Study

Yasuko Imai, Nobuhiro Tanaka, Nori Takahashi, Saiko Kurohane, Yasuyoshi Takei, Akira Yamashina. Tokyo Medical University, Tokyo, Japan

## P2-82

### Novel Index of Right Ventricular Myocardial Stiffness is Directly Related to Right Heart Performance in Patients with Pulmonary Hypertension

Chayakrit Krittanawong, Anusith Tunhasirwet, Panorkwan Toparkngarm, Mahmoud M. Alashry, Sorin V. Pislaru, Patricia A. Pellikka, Garvan C. Kane, Cristina Pislaru. Division of Cardiovascular Disease, Department of Medicine, Mayo Clinic, Rochester, MN

## P2-83

### Prenatal Diagnosis of Complete Vascular Rings by 2D and 3D/4D Fetal Echocardiography

Ye Zhang<sup>1</sup>, Yihua He<sup>1</sup>, Lin Sun<sup>1</sup>, Ying Zhao<sup>1</sup>, Shuping Ge<sup>2</sup>. <sup>1</sup>Beijing Anzhen Hospital, Capital Medical University, Beijing, China; <sup>2</sup>St. Christopher's Hospital for Children/Drexel University College of Medicine, Philadelphia, PA

## P2-84

### Gender Difference in the Association Between Left Ventricular Relaxation and Afterload

Hidemi Sorimachi. Gunma University Graduate School of Medicine, Maebashi, Japan

## P2-85

### Do Echocardiographic Parameters Accurately Reflect Left Ventricular Filling Pressures in Patients with Severe Aortic Stenosis Being Evaluated for Transcatheter Aortic Valve Replacement?

Serge Harb, Kimi Sato, Brandon Jones, Samir R. Kapadia, Brian P. Griffin, Leonardo Rodriguez, Zoran Popovic. Cleveland Clinic Foundation, Cleveland, OH

## P2-86

### Diagnosing Heart Failure on the Descending Limb of the Starling Curve Using Echocardiography with Passive Leg Raising

Kanako Akamatsu<sup>1</sup>, Yukio Abe<sup>1</sup>, Yoshiki Matsumura<sup>1</sup>, Atsuko Furukawa<sup>1</sup>, Kazato Ito<sup>1</sup>, Takahiko Naruko<sup>1</sup>, Kazuo Haze<sup>1</sup>, Minoru Yoshiyama<sup>2</sup>, Junichi Yoshikawa<sup>3</sup>. <sup>1</sup>Osaka City General Hospital, Osaka, Japan; <sup>2</sup>Osaka City University Medical School, Osaka, Japan; <sup>3</sup>Nishinomiya-Watababe Cardiovascular Center, Nishinomiya, Japan

## P2-87

### Can Diastolic Pressures be Estimated in the Presence of Mitral Annular Calcification: A Doppler-Hemodynamic Correlation Study

John Dickey<sup>1</sup>, Adedotun Anthony Ogunsua<sup>2</sup>, Aditya Vaze<sup>2</sup>, Gerard Aurigemma<sup>2</sup>. <sup>1</sup>Alpert Medical School of Brown University, Providence, RI; <sup>2</sup>University of Massachusetts Medical School, Worcester, MA

## P2-88

### Hemodynamic Modeling of Coarctation of Aorta in Human Fetuses Using Computational Fluid Dynamics and 3D/4D Spatio-Temporal Image Correlation Fetal Echocardiography

Zhuo Chen<sup>1</sup>, Yihua He<sup>1</sup>, Shengli Li<sup>2</sup>, Hongkai Zhao<sup>3</sup>, Xiaowei Liu<sup>1</sup>, Shuping Ge<sup>4</sup>. <sup>1</sup>Beijing Anzhen Hospital, Capital Medical University, Beijing, China; <sup>2</sup>Department of Laboratory Animal Science, Capital Medical University, Beijing, China; <sup>3</sup>School of Aeronautic Science and Engineering, Beihang University, Beijing, China; <sup>4</sup>St. Christopher's Hospital for Children/Drexel University College of Medicine, Philadelphia, PA

## ISCHEMIC HEART DISEASE

### P2-89 THROUGH P2-98

## P2-89 MODERATED POSTER

### Strain Echocardiography Predicts 30-day Mortality in ST-elevation Myocardial Infarction after Primary Percutaneous Coronary Intervention and is Superior to TIMI and GRACE Risk Score

Hsin-Yueh Liang<sup>1,2</sup>, Surendra Chimed<sup>3</sup>, Ke-Wei Chen<sup>1</sup>, Theodore Abraham<sup>2</sup>. <sup>1</sup>China Medical University Hospital, Cardiology, Taichung, Taiwan; <sup>2</sup>Johns Hopkins University, School of Medicine, Baltimore, MD; <sup>3</sup>Graduate Institute of Clinical Medical Science, China Medical University, Taichung, Taiwan

## P2-90 MODERATED POSTER

### Prognostic Value of Left Ventricular Global Strain and Cardiac Sympathetic Nerve Activity in Patients with Acute Myocardial Infarction

Tetsuuri Onishi, Wataru Fujimoto, Sonoko Matsuyama, Yasue Tsukishiro, Hiroya Kawai. Himeji Cardiovascular Center, Himeji, Japan

## P2-91 MODERATED POSTER

### Advantages of Regional Myocardial Blood Flow Over Strain in the Detection of Coronary Stenoses with Dobutamine Stress

John C. Stendahl<sup>1</sup>, Nripesh Parajuli<sup>1</sup>, Allen Lu<sup>1</sup>, Nabil E. Boutagy<sup>1</sup>, Imran Alkhalil<sup>1</sup>, Melissa M. Eberle<sup>1</sup>, Ben A. Lin<sup>1</sup>, Lawrence H. Staib<sup>1</sup>, Matthew O'Donnell<sup>2</sup>, James S. Duncan<sup>1</sup>, Albert J. Sinusas<sup>1</sup>. <sup>1</sup>Yale University, New Haven, CT; <sup>2</sup>University of Washington, Seattle, WA

Disclosures: M. O'Donnell – 2, 6 (Epsilon Imaging, Inc.)

## P2-92 MODERATED POSTER

### A Novel Therapeutic Target that Contributes to Preserved LV Function in Non-ischemic

#### Cardiomyopathy: A Myocardial Mechanics Echo Study

Bryana Levitan, Janet R. Manning, Catherine N. Withers, Jeffrey D. Smith, Douglas A. Andres, Jonathan Satin, Vincent L. Sorrell. University of Kentucky, Lexington, KY

## P2-93

### Evaluation of Ischemic Memory by Longitudinal Strain in Patients with Positive Exercise Stress Echocardiography

Natalio A. Gastaldello, Pablo M. Merlo, Marcela I. Galello, Diego C. Alasia, Miguel Amor, Mirta S. Casella, Salvador V. Spina, Maria G. Rousse, Victor D. Darú, Jorge A. Lowenstein. Investigaciones Medicas, Buenos Aires, Argentina

## P2-94

### Variability of Left Ventricular Functional Response Early After Acute Myocardial Infarction

Newton B. Wiggins, Benico Barzilai, Daniel J. Cantillon, Venugopal Menon, Richard A. Grimm, Brian P. Griffin, Umesh N. Khot. Cleveland Clinic, Cleveland, OH

## P2-95

### Prediction of Left Ventricular Remodeling in Patients with Acute Myocardial Infarction by Speckle Tracking Imaging with Wall Motion Score Index: A Clinical Follow-up Study

Bo Hu, Rui-qiang Guo, Qing Zhou, Hong-ning Song, Xue Yao. Renmin Hospital of Wuhan University, Wuhan City, China

## P2-96

### Echocardiographic Evidence of a Possible Novel Etiology of Spontaneous Coronary Artery Dissection

Whitney Coppolino, Lucy Safi, Jessica Duran, Malissa Wood. Massachusetts General Hospital, Boston, MA

## P2-97

### Efficient Gene Therapy with the Combination of Ultrasound Targeted Microbubble Destruction and PEI/DNA/NLS Complexes

Qing Zhou, Yi-jia Wang, Sheng Cao, Bo Hu, Qing Deng, Nan Jiang, Jing-jing Cui, Rui-qiang Guo. Renmin Hospital of Wuhan University, Wuhan City, China

## P2-98

### Decline in Left Ventricular Function Early After Acute Myocardial Infarction Impacts Clinical Decision Making

Newton B. Wiggins, Benico Barzilai, Daniel J. Cantillon, Venugopal Menon, Richard A. Grimm, Brian P. Griffin, Umesh N. Khot. Cleveland Clinic, Cleveland, OH

## EMERGING USE OF ECHOCARDIOGRAPHY / POINT OF CARE ECHOCARDIOGRAPHY

### P2-99 THROUGH P2-112

## P2-99 MODERATED POSTER

### Prediction of Cardiovascular Events after Kidney Transplant Using Speckle-tracking Strain Analysis

Bradley Peltzer, Kana Fujikura, Nidhish Tiwari, Hye Gi Shim, Sanyog

G. Shitole, Ally Dinhofer, Mario J. Garcia. Montefiore Medical Center/ Albert Einstein College of Medicine, Bronx, NY

## P2-100 MODERATED POSTER

### Inferior Vena Cava (IVC) Diameter Measured by Vscan Identifies Heart Failure (HF) Patients at High Risk of Hospitalization

Raj Khandwalla<sup>1</sup>, Kade Birkeland<sup>2</sup>, Raymond Zimmer<sup>2</sup>, Madhuri Sudan<sup>3</sup>, Roland Nazarian<sup>2</sup>, Jennifer Sanchez<sup>2</sup>, Ilan Kedan<sup>1</sup>. <sup>1</sup>Cedars Sinai Heart Institute, Los Angeles, CA; <sup>2</sup>Cedars Sinai Medical Group, Los Angeles, CA; <sup>3</sup>UCLA School of Public Health, Los Angeles, CA

Disclosures: R. Khandwalla – 4 (General Electric, Sentrian Inc.)

## P2-101 MODERATED POSTER

### Evaluation of the Effect of Echocardiography Settings on the Speckle-tracking Repeatability

Kana Fujikura, Rupinder Kaur, Neeraja Yedlapati, Irwin Seltzer, Newton Phuong, Nicole Cyrille, Chaim S. Rube, Goutham Ravipati, Sanyog G. Shitole, Daniel M. Spevack, Mario J. Garcia. Montefiore Medical Center / Albert Einstein College of Medicine, Bronx, NY

## P2-102 MODERATED POSTER

### Focused Cardiac Ultrasound by Nurses in Rural Vietnam: Results of the ASE-Vietnam National Heart Institute Collaborative Project

James N. Kirkpatrick<sup>1</sup>, Hoai T.T. Nguyen<sup>2</sup>, Loi Do Duan<sup>2</sup>, Thanh Le Tuan<sup>2</sup>, Son Pham Thi<sup>2</sup>, David Adams<sup>3</sup>, Liza Y. Sanchez<sup>4</sup>, Nova Sprague<sup>4</sup>, Jill Inafuku<sup>5</sup>, Rachel Quang<sup>6</sup>, Rebecca Hahn<sup>7</sup>, Andrea M. Van

Hoever<sup>8</sup>, Tu Nguyen<sup>9</sup>, Thanh G. Kirkpatrick<sup>10</sup>, Jose Banchs<sup>4</sup>. <sup>1</sup>University of Pennsylvania, Philadelphia, PA; <sup>2</sup>Vietnam National Heart Institute, Bach Mai Hospital, Hanoi, Viet Nam; <sup>3</sup>Duke University Medical Center, Durham, NC; <sup>4</sup>The University of Texas MD Anderson Cancer Center, Houston, TX; <sup>5</sup>Tripler Army Medical Center, Kaneohe, HI; <sup>6</sup>Midcoast Hospital, Brunswick, ME; <sup>7</sup>Columbia University, New York, NY; <sup>8</sup>American Society of Echocardiography, Morrisville, NC; <sup>9</sup>Allergan Inc., Houston, TX; <sup>10</sup>Esperanza Health Center, Philadelphia, PA

## P2-103

### Parental Acquisition of Echocardiographic Images in Pediatric Heart Transplant Recipients: A New Era?

Elif Seda Selamet Tierney, Alaina K. Kipps, Katherine M. Stefani, Nancy McDonald, Donna Lee, Lynsey Barkoff, David Rosenthal. Stanford University, Palo Alto, CA

## P2-104

### Maturational Changes in Left Ventricular Rotational Mechanics in Normal Fetuses: Prenatal Cardiac Indices and Outcomes by Ultrasound (PRECIOUS) Investigators

Ling Li<sup>1</sup>, Jennifer Winter<sup>1</sup>, Howard Hsu<sup>1</sup>, Collin Erickson<sup>1</sup>, Navya Joseph<sup>1</sup>, Mary Craft<sup>1</sup>, Berthold Klas<sup>2</sup>, Aparna Kulkarni<sup>3</sup>, David Danford<sup>1</sup>, Shelby Kutty<sup>1</sup>. <sup>1</sup>University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE; <sup>2</sup>TomTec Imaging Systems, Unterschleissheim, Germany; <sup>3</sup>Bronx Lebanon Hospital Center, Bronx, NY

Disclosures: B. Klas – 5 (TomTec)

## P2-105

### Ultrasound Imaging of the Thoracic Duct in Clinical Echocardiography

Cassandra H. Sung<sup>1</sup>, John L. Bass<sup>1</sup>, James M. Berry<sup>1</sup>, Charles W. Shepard<sup>2</sup>, Lazaros K. Kochilas<sup>3</sup>. <sup>1</sup>University of Minnesota, Minneapolis, MN; <sup>2</sup>Children's Hospital and Clinics of Minnesota, Minneapolis, MN; <sup>3</sup>Emory University, Atlanta, GA



## P2-106

### Comparison of Three Metrics of Skill in Echo Image Acquisition

Florence Sheehan. University of Washington, Seattle, WA

Disclosures: F. Sheehan – 2, 3 (VentriPoint Inc), 3, 6 (Sheehan Medical LLC)

## P2-107

### Machine Learning-enabled Image Analysis for Fully Automated Assessment of Left Ventricular Volumes and Ejection Fraction: First Experience in Pediatric Echocardiography

Paul Homer<sup>1</sup>, Mary Craft<sup>1</sup>, Jonathan Cramer<sup>1</sup>, Navya Joseph<sup>1</sup>, Berthold Klas<sup>2</sup>, David Danford<sup>1</sup>, Shelby Kutty<sup>1</sup>. <sup>1</sup>University of Nebraska/Childrens Hospital and Medical Center, Omaha, NE; <sup>2</sup>TomTec Imaging Systems, Unterschleissheim, Germany

Disclosures: B. Klas – 5 (TomTec)

## P2-108

### Hand Held Ultrasonography as a Gatekeeper to Standard Echocardiography for Rarely Appropriate Echocardiography Requests

Faraz Pathan<sup>1</sup>, Ricardo Fonseca<sup>1</sup>, Thomas H. Marwick<sup>2</sup>. <sup>1</sup>The Menzies Institute for Medical Research, Hobart, Australia; <sup>2</sup>Baker-IDI Heart and Diabetes Institute, Melbourne, Australia

## P2-109

### Use of Handheld Ultrasound in Ambulatory Heart Failure Patients: Relationship to Clinical Assessment and Outcomes

Ju H. Kim, Gurusher Panjra, Helma Parikh, Heather Young, Brian G. Choi, Jannet F. Lewis. George Washington University, Washington, DC

## P2-110

### Usefulness of Transesophageal Simulator During a Continued Medical Education Event to Assess Competency of Transesophageal Performance Among Cardiologists

Zeina Ibrahim, Jyothy Puthumana, Nicholas Furiase, Vera Rigolin, Clara Schroedl. Northwestern Memorial Hospital, Chicago, IL

## P2-111

### A Randomized Study on the Use of Pocket Ultrasound for Outpatient Medication Management in Patients with Heart Failure with Reduced Ejection Fraction

Kassra Poosti<sup>1</sup>, Alaa M. Omar<sup>1,2</sup>, Sean Pinney<sup>1</sup>, Ehimare Akhabue<sup>1</sup>, Jagat Narula<sup>1</sup>, Partho P. Sengupta<sup>1</sup>. <sup>1</sup>Icahn School of Medicine at Mount Sinai, New York, NY; <sup>2</sup>National Research Centre, Medical Division, Department of Internal Medicine, Cairo, Egypt

## P2-112

### Echocardiographic Screening in Older Adults and Health Insurance Decisions: A Report from the ASE-Vietnam National Heart Institute Collaborative Project

James Kirkpatrick<sup>1</sup>, Hoai T.T. Nguyen<sup>2</sup>, Loi Do Duan<sup>2</sup>, Thanh Le Tuan<sup>2</sup>, Son Pham Thai<sup>2</sup>, David Adams<sup>3</sup>, Liza Y. Sanchez<sup>4</sup>, Nova Sprague<sup>4</sup>, Jill Inafuku<sup>5</sup>, Rachel Quang<sup>6</sup>, Rebecca Hahn<sup>7</sup>, Andrea M. Van Hoever<sup>8</sup>, Tu Nguyen<sup>9</sup>, Thanh G. Kirkpatrick<sup>10</sup>, Jose Banchs<sup>4</sup>. <sup>1</sup>University of Pennsylvania, Philadelphia, PA; <sup>2</sup>Vietnam National Heart Institute, Bach Mai Hospital, Hanoi, Viet Nam; <sup>3</sup>Duke University

Medical Center, Durham, NC; <sup>4</sup>The University of Texas MD Anderson Cancer Center, Houston, TX; <sup>5</sup>Tripler Army Medical Center, Kaneohe, HI; <sup>6</sup>Midcoast Hospital, Brunswick, ME; <sup>7</sup>Columbia University, New York, NY; <sup>8</sup>American Society of Echocardiography, Morrisville, NC; <sup>9</sup>Allergan Inc., Houston, TX; <sup>10</sup>Esperanza Health Center, Philadelphia, PA

## VENTRICULAR FUNCTION / MYOCARDIAL MECHANICS

### P2-113 THROUGH P2-160

## P2-113 MODERATED POSTER

### Left Ventricular Global Longitudinal Strain is an Independent Predictor of Exercise Capacity in Hypertrophic Cardiomyopathy Patients Undergoing Cardiopulmonary Stress Testing and Echocardiography

Jorge Betancor, Albree Tower-Rader, Ahmad Masri, Zoran B. Popovic, Maran Thamilarasan, Leslie S. Cho, Harry M. Lever, Milind Y. Desai. Cleveland Clinic, Cleveland, OH

## P2-114 MODERATED POSTER

### The Effects of Moderator Band Insertion on the Measurement of the Interventricular Septum

Waddy Gonzalez, Jeremy Miles, Daniel Spevack. Montefiore Medical Center, Bronx, NY

## P2-115 MODERATED POSTER

### Association of Coronary Artery Calcium Progression from Early Adulthood to Middle Age and Left Ventricular Structure and Function: The Coronary Artery Risk Development in Young Adults (CARDIA) Study

Guilherme S. Yared<sup>1</sup>, Henrique T. Moreira<sup>1</sup>, Chike C. Nwabuo<sup>1</sup>, Henrique D. Vasconcellos<sup>1</sup>, Bharath A. Venkatesh<sup>1</sup>, Jared P. Reis<sup>2</sup>, Donald M. Lloyd-Jones<sup>3</sup>, Pamela J. Schreiner<sup>4</sup>, Cora E. Lewis<sup>5</sup>, Stephen Sidney<sup>6</sup>, John J. Carr<sup>7</sup>, Samuel S. Gidding<sup>8</sup>, Joao A.C. Lima<sup>1</sup>. <sup>1</sup>Johns Hopkins Hospital, Baltimore, MD; <sup>2</sup>National Heart, Lung, and Blood Institute, Bethesda, MD; <sup>3</sup>Northwestern University Feinberg School of Medicine, Chicago, IL; <sup>4</sup>University of Minnesota, Minneapolis, MN; <sup>5</sup>University of Alabama at Birmingham, Birmingham, AL; <sup>6</sup>Kaiser Permanente Division of Research, Oakland, CA; <sup>7</sup>Vanderbilt University Medical Center, Nashville, TN; <sup>8</sup>Nemours Foundation, Wilmington, DE

## P2-116 MODERATED POSTER

### Suitability of Conventional Segmentation Schemes for Analysis of High-resolution Parametric Images of Left Ventricular Function: Lesson Learned from Fusion of 3D Echocardiography and Cardiac Computed Tomography

Victor Mor-Avi, Francesco Maffessanti, Mita B. Patel, James J. Walter, Anuj Mediratta, Diego Medvedofsky, Amit R. Patel, Roberto M. Lang. University of Chicago, Chicago, IL

Disclosures: V. Mor-Avi – 4 (ASE); R. M. Lang – 1 (Philips Healthcare)

## P2-117

### Persistence of Cardiac Remodeling in Preadolescents who Suffered Fetal Growth Restriction

Merida Rodriguez-Lopez<sup>1</sup>, Sebastian Imre Sarvari<sup>2,3</sup>, Marta Sitges<sup>2</sup>, Eduard Gratacos<sup>1</sup>, Bart Bijns<sup>4</sup>, Fatima Crispi<sup>1</sup>. <sup>1</sup>Maternal Fetal-Medicine Department, BCNatal (Hospitals Clinic and Sant Joan de Deu), IDIBAPS, University of Barcelona, Barcelona, Spain; <sup>2</sup>Cardiology



Department, Cardiovascular Institute, Hospital Clinic, IDIBAPS, University of Barcelona, Barcelona, Spain; <sup>3</sup>Department of Cardiology, Oslo University Hospital, Rikshospitalet, and University of Oslo, Oslo, Norway; <sup>4</sup>ICREA, Departamento de Información y Comunicación, Universitat Pompeu Fabra, Barcelona, Spain

## P2-I18

### Echocardiographic Predictors of Cardiac Outcomes with Resynchronization Therapy: Results from the DIRECT Study

Maros Ferencik<sup>1</sup>, Jackie Szymonifka<sup>2</sup>, Asaad A. Khan<sup>3</sup>, Mi Young Park<sup>4</sup>, Jagmeet P. Singh<sup>4</sup>, Quynh A. Truong<sup>2</sup>, Michael H. Picard<sup>4</sup>, <sup>1</sup>Oregon Health and Science University, Portland, OR; <sup>2</sup>New York-Presbyterian Hospital and Weill Cornell Medical College, New York, NY; <sup>3</sup>Mount Sinai Hospital, New York, NY; <sup>4</sup>Massachusetts General Hospital and Harvard Medical School, Boston, MA

Disclosures: M. Ferencik – 4 (AHA); J. P. Singh – 2 (Biotronik, Boston Scientific, Impulse Dynamics, LivaNova, Medtronic, St. Jude Medical), 4 (Boston Scientific, St. Jude Medical); Q. A. Truong – 4 (ACRIN, NIH/NHLBI, SCCT, St. Jude Medical)

## P2-I19

### Molecular and Cellular Correlates of Right Ventricular Function in a Pressure Overload Model: A Study Using Three-dimensional Speckle Tracking Echocardiography

Yuman Li, Mingxing Xie, Lei Li, Mengmei Li. Department of Ultrasound, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

## P2-I20

### Serial Assessment of Left Ventricular Function by Echocardiography in Transplant-free Survivors versus Non-survivors in Children with Dilated Cardiomyopathy

Ryo Ishii, Cameron Slorach, Andreea Dragulescu, Luc Mertens, Mark K Friedberg. Hospital for Sick Children and University of Toronto, Toronto, ON, Canada

## P2-I21

### Optimal Measurement of Right Ventricular Dyssynchrony in Pulmonary Hypertension

Mitsushige Murata, Yugo Minakata, Jin Endo, Hikaru Tsuruta, Yuji Itabashi, Keiichi Fukuda. Keio University, Tokyo, Japan

## P2-I22

### Left Ventricular Response to Exercise in Dilated Cardiomyopathy and the Potential for Reclassification of Heart Failure Severity

Kegan J. Moneghetti<sup>1</sup>, Yukari Kobayashi<sup>1</sup>, Miyuki Ariyama<sup>1</sup>, Matthew Wheeler<sup>1</sup>, Ingela Schnitter<sup>1</sup>, Johnathan Myers<sup>2</sup>, Euan Ashley<sup>1</sup>, Francois Haddad<sup>1,3</sup>. <sup>1</sup>Division of Cardiovascular Medicine, Stanford University School of Medicine, Stanford, CA; <sup>2</sup>Division of Cardiology, Veterans Affairs Palo Alto Healthcare System, Palo Alto, CA; <sup>3</sup>Stanford Cardiovascular Institute, Stanford University, Palo Alto, CA

## P2-I23

### Right Ventricular Myocardial Performance Index and NT-proBNP for Early Prediction of Bronchopulmonary Dysplasia in Preterm Infants Less Than 32 Weeks of Gestation

Christoph Czernik<sup>1</sup>, Ann-Katrin Minke<sup>1,2</sup>, Boris Metze<sup>1</sup>, Christoph Bühner<sup>1</sup>. <sup>1</sup>Charité University Medical Center, Berlin, Germany; <sup>2</sup>Department of Neonatology, Berlin, Germany

## P2-I24

### Assessment of Myocardial Mechanical Parameters in Hypertrophic Cardiomyopathy Using 3 Dimensional Speckle Tracking Echocardiography

Maryam Esmaeilzadeh<sup>1,2</sup>, Hooman Bakhshandeh Abkenar<sup>1</sup>, Rabiya Malik<sup>2</sup>, Hamid Reza Salehi<sup>2</sup>, Ayan R. Patel<sup>2</sup>, Natesa G. Pandian<sup>2</sup>, <sup>1</sup>Rajaie Cardiovascular Medical and Research Center, Tehran, Iran, Islamic Republic of; <sup>2</sup>Tufts Medical Center, Boston, MA

## P2-I25

### Longitudinal Assessment of Myocardial Function in Childhood Chronic Kidney Disease, Dialysis, and Following Kidney Transplantation

Rawan Rumman<sup>1,2</sup>, Ronand Ramroop<sup>1</sup>, Rahul Chanchlani<sup>1,3</sup>, Mikael Ghany<sup>1</sup>, Diane Hebert<sup>1,2</sup>, Elizabeth Harvey<sup>1,2</sup>, Rulan Parekh<sup>1,2</sup>, Luc Mertens<sup>1,2</sup>, Michael Grattan<sup>1,4</sup>. <sup>1</sup>Hospital for Sick Children, Toronto, ON, Canada; <sup>2</sup>University of Toronto, Toronto, ON, Canada; <sup>3</sup>McMaster Children's Hospital, Hamilton, ON, Canada; <sup>4</sup>LHSC Children's Hospital, London, ON, Canada

## P2-I26

### Echo Quantified RV Dysfunction via TAPSE is Strongly Associated with Decreased Effort Tolerance During Exercise Treadmill Testing

Jiwon Kim<sup>1</sup>, Aparna Srinivasan<sup>1</sup>, Tania Seoane<sup>1</sup>, Polydoros Kampaktsis<sup>1</sup>, Antonino Di Franco<sup>1</sup>, Tracy Paul<sup>1</sup>, Alexi Geevarghese<sup>1</sup>, Meenakshi Rozenstrauch<sup>1</sup>, Omar Khalique<sup>2</sup>, Richard B. Devereux<sup>1</sup>, Jonathan W. Weinsaft<sup>1</sup>. <sup>1</sup>Weill Cornell Medical College, New York, NY; <sup>2</sup>Columbia University, New York, NY

## P2-I27

### The Myocardial Contraction Fraction (MCF) is Highly Correlated with Global Longitudinal Strain in Transthyretin (ATTR) Cardiac Amyloidosis

Laura Cohen, Stephen Helmke, Sergio Teruya, Mathew M. Maurer, Smriti H. Deshmukh. Columbia University Medical Center, New York, NY

## P2-I28

### Cardiac Mechanics and Cancer Therapeutics-related Cardiac Dysfunction in a Community-based Population Treated with Anthracyclines: Results from the PREDICT Study

Hari K. Narayan<sup>1</sup>, Wei Wei<sup>2</sup>, Ziding Feng<sup>2</sup>, Daniel Lenihan<sup>3</sup>, Michael Fisch<sup>2</sup>, Bonnie Ky<sup>4</sup>. <sup>1</sup>The Children's Hospital of Philadelphia, Philadelphia, PA; <sup>2</sup>The University of Texas MD Anderson Cancer Center, Houston, TX; <sup>3</sup>Vanderbilt University Medical Center, Nashville, TN; <sup>4</sup>The University of Pennsylvania, Philadelphia, PA

## P2-I29

### Intraventricular Pressure Gradient in the Left Ventricle During Early Diastole as an Early Indicator of Cardiac Dysfunction in Patients with Childhood Malignancies After Anthracycline Treatment

Sachie Shigemitsu<sup>1,2</sup>, Ken Takahashi<sup>1</sup>, Maki Kobayashi<sup>1</sup>, Mariko Yamada<sup>1</sup>, Katsumi Akimoto<sup>1</sup>, Sachi Sakaguchi<sup>1</sup>, Junya Fujimura<sup>1</sup>, Masahiro Saito<sup>1</sup>, Masahiko Kishiro<sup>1</sup>, Masaki Nii<sup>3</sup>, Kiyohiro Takigiku<sup>4</sup>, Manatomo Toyono<sup>5</sup>, Satoru Iwashima<sup>6</sup>, Keiichi Itatani<sup>7</sup>, Toshiaki Shimizu<sup>1</sup>. <sup>1</sup>Juntendo University Faculty of Medicine, Department of Pediatrics, Tokyo, Japan; <sup>2</sup>Kawasaki Kyodo Hospital, Department of Pediatrics, Kanagawa, Japan; <sup>3</sup>Shizuoka Children's Hospital, Department of Cardiology, Shizuoka, Japan; <sup>4</sup>Nagano Children's Hospital, Department of Cardiology, Nagano, Japan; <sup>5</sup>Akita University Graduate School of Medicine, Department of Pediatrics, Akita, Japan;



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## **P2-I30**

### **Speckle Tracking Strain-imaging Assessment of Impaired Contractile Recovery Following Ischemia-reperfusion in Mice**

Alina Nicoara, Qing Ma, Zhiqian Zhang, Quintin Quiñones, Matthew Hirschey, Dennis Abraham, Madhav Swaminathan, Mihai Podgoreanu. Duke University Medical Center, Durham, NC

## **P2-I31**

### **Impact of Left Ventricular Apical Wall Motion Abnormality on the Early Diastolic Suction**

Hiroyuki Iwano<sup>1</sup>, Daisuke Kamimura<sup>2</sup>, Pavlos Vlachos<sup>3</sup>, Satoshi Yamada<sup>1</sup>, Hiroyuki Tsutsui<sup>1</sup>. <sup>1</sup>Hokkaido University Graduate School of Medicine, Sapporo, Japan; <sup>2</sup>University of Mississippi Medical Center, Jackson, MS; <sup>3</sup>School of Mechanical Engineering, Purdue University, West Lafayette, IN

## **P2-I32**

### **Three Dimensional Speckle Tracking Quantification of Right Ventricular Function in Patients with Pulmonary Hypertension as a Marker Predictive of Clinical Outcome**

Masataka Sugahara, Zhi Qi, Rishin Handa, Marc Simon, Michael Mathier, John Gorcsan, III. University of Pittsburgh, Pittsburgh, PA

Disclosures: J. Gorcsan – 4 (Biotronik, GE, Medtronic, St. Jude Medical, Toshiba)

## **P2-I33**

### **Dispersion of Left Ventricular Segmental Peak Longitudinal Strain as a New Marker of Neurocardiac Injury in Patients with Subarachnoid Hemorrhage**

Zhi Qi, Masataka Sugahara, Elizabeth A. Crago, Yuefang Chang, Theodore F. Lagattuta, Khalil Yousef, Robert M. Friedlander, Marilyn T. Hravnak, John Gorcsan, III. University of Pittsburgh, Pittsburgh, PA

## **P2-I34**

### **Impact of Transcatheter Aortic Valve Replacement on Left Ventricular and Atrial Strains**

Qi Sun<sup>1</sup>, Ming-Chon Hsiung<sup>2</sup>, Yiting Fan<sup>1</sup>, Gary Cheung<sup>1</sup>, Eugene B. Wu<sup>1</sup>, Alex P. Lee<sup>1</sup>. <sup>1</sup>The Chinese University of Hong Kong, Hong Kong, Hong Kong; <sup>2</sup>Cheng Hsin General Hospital, Taipei, Taiwan

## **P2-I35**

### **Significant Differences in Manual versus Automated Derived Left Ventricular Strain in Children**

Martijn G. Sliker, Cameron Slorach, Wei Hui, Andreea Dragulescu, Mark K. Friedberg, Luc Mertens. Hospital for Sick Children, Toronto, ON, Canada

## **P2-I36**

### **Mechanism of the Left Ventricular Dysfunction as Assessed Through Layer Specific Strain Analysis in Patients with Repaired Tetralogy of Fallot**

Mariko Yamada<sup>1</sup>, Ken Takahashi<sup>1</sup>, Maki Kobayashi<sup>1</sup>, Kana Ono<sup>1</sup>, Sachie Shigemitsu<sup>1</sup>, Katsumi Akimoto<sup>1</sup>, Masahiro Kishiro<sup>1</sup>, Keisuke Nakanishi<sup>2</sup>, Shiori Kawasaki<sup>2</sup>, Keiichi Itatani<sup>3</sup>, Toshiaki Shimizu<sup>1</sup>. <sup>1</sup>Department of Pediatrics and Adolescent Medicine, Juntendo University Faculty of Medicine, Tokyo, Japan; <sup>2</sup>Department of Cardiovascular Surgery, Juntendo University Faculty of Medicine, Tokyo, Japan; <sup>3</sup>Division of Cardiovascular and Pediatric Cardiovascular Surgery, Department of Surgery, Kyoto Prefectural University of Medicine, Kyoto, Japan

## **P2-I37**

### **Differences in Cardiac Function in Hydropic and Non-hydropic Fetuses with Sacrococcygeal Teratoma**

Eunice Hahn, Christopher Statile, Regina Keller, James Cnota, II, Erik Michelfelder. Cincinnati Children's Hospital Medical Center, Cincinnati, OH

## **P2-I38**

### **Comparison of Two-dimensional and Three-dimensional Speckle Tracking Echocardiography in Early Detection of Biventricular Systolic Function After Anthracycline Therapy in Patients with Lymphoma**

Feiyan Song, Leilei Cheng, Jing Shi, Chujie Zhang, Xianhong Shu. Zhongshan Hospital, Fudan University, Shanghai, China

## **P2-I39**

### **The Value of Pre-operative Global Longitudinal Strain in Predicting Post-operative Left Ventricular Systolic Dysfunction in Patients with Severe Primary Mitral Regurgitation and Normal Systolic Function Undergoing Mitral Valve Repair**

Soohun Chun, James Lambert, Anna Woo, Tirone David, Paaladinesh Thavendiranathan. University of Toronto, Toronto, ON, Canada

## **P2-I40**

### **Speckle Tracking Echocardiography Revealed Bellows-like Motion of the Elasmobranch Ventricle: A Possible Model for the Human Right Ventricular Mechanics**

Yuji Hirasaki<sup>1</sup>, Susumu Minamisawa<sup>2</sup>, Masataka Okabe<sup>3</sup>. <sup>1</sup>The Jikei University Graduate School of Medicine, Tokyo, Japan; <sup>2</sup>Department of Cell Physiology, The Jikei University School of Medicine, Tokyo, Japan; <sup>3</sup>Department of Anatomy, The Jikei University School of Medicine, Tokyo, Japan

## **P2-I41**

### **The E wave Penetration Index: A Novel and Easily Obtainable Echocardiographic Parameter for Accurate Prediction of Left Ventricular Thrombus Risk**

Thura T. Abd<sup>1</sup>, Jung-hee Seo<sup>1</sup>, Nathaniel Welsh<sup>1</sup>, Hayder S. Yasir<sup>2</sup>, Theodore P. Abraham<sup>1</sup>, Armin Arbab-Zadeh<sup>1</sup>, Richard T. George<sup>1</sup>, Rajat Mittal<sup>1</sup>. Johns Hopkins University, Baltimore, MD; <sup>2</sup>Baltimore Medical System, Inc, Baltimore, MD

## **P2-I42**

### **Is Semi-automated Assessment of Left Ventricular Global Longitudinal Strain Better Than Ejection Fraction?**

Diego Medvedofsky<sup>1</sup>, Kalie Kebed<sup>1</sup>, Luke Laffin<sup>1</sup>, Jeremy Stone<sup>1</sup>, Jamie Hamilton<sup>2</sup>, Karima Addetia<sup>1</sup>, Victor Mor-Avi<sup>1</sup>, Roberto M. Lang<sup>1</sup>.

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Disclosures: J. Hamilton – 5 (Epsilon); R. M. Lang – 1 (Philips)

## **P2-I43**

### **Role of Global Longitudinal Strain Imaging for Newly Diagnosed Patients with Heart Failure with Preserved Ejection Fraction (HFpEF): A Three Year Follow up in an Asian Cohort**

Weiting Huang<sup>1</sup>, Siang Chew Chai<sup>2</sup>, Carmen Jia Wen Kam<sup>2</sup>, Choong Hou Koh<sup>1</sup>, Mohammed Rizwan Amanullah<sup>1</sup>, Tong Khim Leng<sup>2</sup>, Gerald Kui Toh Leong<sup>2</sup>, Michael MacDonald<sup>2</sup>. <sup>1</sup>National Heart Centre Singapore, Singapore, Singapore; <sup>2</sup>Changi General Hospital, Singapore, Singapore



## **P2-I44**

### **Differences in Symptom Resolution and Myocardial Mechanics in Hypertrophic Obstructive Cardiomyopathy in Patients Undergoing Septal Myectomy versus Alcohol Septal Ablation**

Marissa Huebner, Jason Bensch, Jessica Minnier, Matthew Slater, Joaquin Cigarroa, Stephen Heitner. Oregon Health & Science University, Portland, OR

## **P2-I45**

### **Most Significantly Impaired Endocardial Strain in Patients with Slow Coronary Flow**

Jing Shi, Cuizhen Pan, Qing Li, Yan Yan, Hongbo Yang, Juying Qian, Xianhong Shu. Zhongshan Hospital, Fudan University, Shanghai, China

## **P2-I46**

### **Intrinsic Abnormality in Left Ventricular Performance in Patients with Seemingly Normal Wall Motion After Subarachnoid Hemorrhage**

Ayako Takahashi<sup>1</sup>, Keiko Sugimoto<sup>2</sup>, Kazuhiro Nakamura<sup>1</sup>, Atsuhiko Kuno<sup>1</sup>, Rika Arakawa<sup>1</sup>, Kunihiro Sugimoto<sup>1</sup>, Junichi Ishii<sup>2</sup>, Takashi Ishikawa<sup>1</sup>, Akira Yamada<sup>2</sup>, Yukio Ozaki<sup>2</sup>. <sup>1</sup>Fujita Health University Hospital, Toyoake, Japan; <sup>2</sup>Fujita Health University, Toyoake, Japan

## **P2-I47**

### **Echocardiographic Responses to Left Ventricular Assist Device Implantation in Axial vs. Centrifugal Continuous-flow Device Recipients**

Andreas P. Kalogeropoulos, Kunal N. Bhatt, Vasiliki V. Georgiopolou, Maria A. Pernetz, David W. Markham, J. David Vega, Andrew L. Smith. Emory University, Atlanta, GA

## **P2-I48**

### **What is the Role of Diastolic Function in the Quality of Life and Functional Capacity of Patients with Heart Failure Undergoing a Combined Exercise Program**

Meliza G. Roscani<sup>1</sup>, Taina F. C. Valadao<sup>1,2</sup>, Fabio H. O. Ribeiro<sup>2</sup>, Jonas A. Araujo Junior<sup>2</sup>, Danielle A. A. Rossi<sup>2</sup>, Ricardo C. Borra<sup>1</sup>, Juliana Milan<sup>1</sup>, Regina C. Coneglian<sup>2</sup>, Aparecida M. Catai<sup>1</sup>, Beatriz B. Matsubara<sup>2</sup>, João C. Hueb<sup>2</sup>. <sup>1</sup>São Carlos Federal University, São Carlos, Brazil; <sup>2</sup>Botucatu Medical School, Botucatu, Brazil

## **P2-I49**

### **Diastology and Delayed Enhancement in Hypertrophic Cardiomyopathy**

Kevin Manocha, David Snipelisky, Jeffrey Geske, Bernard Gersh. Mayo Clinic, Rochester, NY

## **P2-I50**

### **Study of Left Ventricular Systolic Function in Patients with Pacemaker Implantation During Atrioventricular Conduction and Right Ventricular Apex Pacing Mode**

Jing Yao, Di Xu, Yanjuan Zhang, Huang Tang. Department of Cardiology, First Affiliated Hospital of Nanjing Medical University, Nanjing, China

## **P2-I51**

### **Early Detection of Abnormal Left Ventricular Deformation in Arrhythmogenic Right Ventricular Cardiomyopathy by Strain Echocardiography**

Hsin-Yueh Liang<sup>1,2</sup>, Hugh Calkins<sup>2</sup>, Theodore Abraham<sup>2</sup>. <sup>1</sup>China Medical University Hospital, Cardiology, Taichung, Taiwan; <sup>2</sup>Johns Hopkins University, School of Medicine, Baltimore, MD

## **P2-I52**

### **Use of Isovolumetric Acceleration as an Afterload-independent Marker of RV Dysfunction in Scleroderma**

Leah M. Wright<sup>1</sup>, Nathan Dwyer<sup>2</sup>, Thomas Marwick<sup>1</sup>. <sup>1</sup>Baker IDI, Melbourne, Australia; <sup>2</sup>Royal Hobart Hospital, Hobart, Australia

## **P2-I53**

### **Left Ventricular Adaptation Following Orthotopic Heart Transplantation in Children: A Speckle Echocardiographic Imaging Study**

Rini Sahewalla, Sanjeev Aggarwal. Division of Pediatric Cardiology, Children's Hospital of Michigan, Detroit, MI

## **P2-I54**

### **Validation of 2D Speckle Tracking Strain**

#### **Echocardiography with Sonomicrometer Array**

John C. Stendahl<sup>1</sup>, Nripesh Parajuli<sup>1</sup>, Allen Lu<sup>1</sup>, Nabil E. Boutagy<sup>1</sup>, Imran Alkhalil<sup>1</sup>, Melissa M. Eberle<sup>1</sup>, Ben A. Lin<sup>1</sup>, Lawrence H. Staib<sup>1</sup>, Matthew O'Donnell<sup>2</sup>, James S. Duncan<sup>1</sup>, Albert J. Sinusas<sup>1</sup>. <sup>1</sup>Yale University, New Haven, CT; <sup>2</sup>University of Washington, Seattle, WA

Disclosures: M. O'Donnell – 2, 6 (Epsilon Imaging, Inc.)

## **P2-I55**

### **Left Ventricular Myocardial Stiffness by Intrinsic Wave Propagation Method Increases with Severity of Diastolic Dysfunction**

Mahmoud Alashry, Anusith Tunhasirwet, Chayakrit Krittanawong, Elise A. Oehler, Panorkwan Toparkngarm, Ratnasari Padang, Sorin V. Pislaru, Patricia A. Pellicka, Garvan C. Kane, Cristina Pislaru. Mayo Clinic, Rochester, MN

## **P2-I56**

### **The Longitudinal Systolic Function Evaluated by Tissue Motion Annular Displacement of the Mitral Valve Can Predict the Left Ventricular Ejection Fraction in Normal Children**

Dai Asada, Kenichi Okumura. Kyoto Prefectural University of Medicine, Kyoto, Japan

## **P2-I57**

### **Evaluation of the Short Time Prognosis of the Right Ventricular Systolic Function after Percutaneous Coronary Intervention in Patients with Inferior Wall Myocardial Infarction**

Xue Yao, Bo Hu, Jing-jing Zhu, Tuan-tuan Tan, Hong-ning Song, Qing Zhou, Rui-qiang Guo. Renmin Hospital of Wuhan University, Wuhan City, China

## **P2-I58**

### **Early Assessment of Right Ventricular Systolic Function in Pediatric Heart Transplant Patients**

Kristal L. Woldu, Anna Joong, Lindsay R. Freud, Linda J. Addonizio, Marc E. Richmond. Division of Pediatric Cardiology, Columbia University Medical Center, New York, NY

## **P2-I59**

### **Left Ventricular Function in Hypertensive Pregnancy with Preserved Left Ventricular Eject Fraction: A 3D Speckle Tracking Imaging Study**

Wei Han<sup>1</sup>, Mingxing Xie<sup>2</sup>, João L. Cavalcante<sup>1</sup>. <sup>1</sup>Department of Medicine, Division of Cardiovascular Diseases Heart & Vascular Institute, University of Pittsburgh Medical Center, Pittsburgh, PA; <sup>2</sup>Department

of Ultrasonography, Union Hospital of Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

## **P2-I60**

### **Characterizing Functional Correlates of Cardiac Remodeling and Function among Elderly Adults without Cardiovascular Disease**

Angela S. Koh<sup>1</sup>, JI Wong<sup>1</sup>, FQ Huang<sup>1</sup>, TT Le<sup>1</sup>, Serene Chua<sup>1</sup>, F. Gao<sup>1</sup>, RS Tan<sup>1</sup>, WP Koh<sup>2</sup>, S. Cook<sup>1</sup>. <sup>1</sup>National Heart Centre Singapore, Singapore, Singapore; <sup>2</sup>Duke-NUS Medical School, Singapore, Singapore

## **CLINICAL CASES: CARDIOVASCULAR ULTRASOUND IMAGING IN DIAGNOSIS, CLINICAL DECISION-MAKING, AND PATIENT MANAGEMENT**

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### **Unroofed Coronary Sinus Atrial Septal Defect: The Most Infrequent Type of Atrial Septal Defect**

Preston Ferrara, Karima Addetia, Amit R. Patel, Kirk T. Spencer, Roberto M. Lang. University of Chicago, Chicago, IL

Disclosures: R. M. Lang – 1, 4 (Philips)

## **P2-I62**

### **A Giant Left Atrium**

Yehia Saleh, Abdallah Almaghraby, Mohamed Seleem, Ahmed Samooka, Basma Hammad. Faculty of Medicine, Alexandria University, Alexandria, Egypt

## **P2-I63**

### **Late Presentation of Annular Rupture Initially Mimicking Prosthesis Dysfunction on Echocardiography after Transcatheter Aortic Valve Implantation**

Jennifer Day, Christopher Feindel, Sami Alnasser, Eric Horlick, Mark Osten, Robert J. Cusimano, Ashish Shah, Melitta Mezody, Wendy Tsang. Peter Munk Cardiac Centre, Toronto General Hospital, University Health Network, Toronto, ON, Canada

Disclosures: E. Horlick – 2 (Edwards Lifesciences)

## **P2-I64**

### **Real Time Transesophageal Echocardiography Guided Percutaneous Aspiration of Mobile Right Atrial Thrombus in Patient with Massive Pulmonary Embolism with AngioVac Aspiration Catheter**

Anuj Mediratta, Akhil Narang, J. Raider Estrada, John E. Blair, Roberto M. Lang, Jeanne DeCara. University of Chicago, Chicago, IL

Disclosures: R. M. Lang – 1 (Philips)

## **P2-I65**

### **A Very Unusual Mass in the Left Atrium: A Rare Presentation of an Aortic Root Abscess**

Rajesh Janardhanan, Naktal Hamoud, Todd Rutter. Sarver Heart Center, Banner-University Medical Center, Tucson, AZ

## **P2-I66**

### **Echo Contrast Use in the Differentiation of Apical Variants of Hypertrophic Cardiomyopathy and Hypereosinophilic Syndrome**

Jennifer L. Schaaf, Wojciech Mazur. The Christ Hospital, Cincinnati, OH

## **P2-I67**

### **Rapidly Growing Cardiac Mass: A Case of Left Atrial Hematoma Complicating Coronary Artery Stenting**

Ravi Varshney, Richard Cook, Matthew Chamberlain, Erin Rayner-Hartley, Anthony Y. Fung, Kenneth G. Gin, Parvathy Nair, Teresa S.M. Tsang. University of British Columbia, Vancouver, BC, Canada

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## **P2-I69**

### **A Case of a Persistent Left 5<sup>th</sup> Arch Vessel Arising from a Right Aortic Arch in a Patient with Pulmonary Atresia and Intact Ventricular Septum**

Benjamin S. Frank, Amy Dossey, Michael Ross, Adel Younoszai. Children's Hospital Colorado, Aurora, CO

## **P2-I70**

### **Rat Bite Fever Causing Endocarditis and Fistulous Connection Between the Right Sinus of Valsalva and Right Ventricle**

Sara Creighton. Children's Hospital of Wisconsin, Milwaukee, WI

## **P2-I71**

### **Right Atrial Blood Cyst: An Echocardiographic Diagnosis**

Pratik K. Dalal, Divyashree Varma, Helenmari Merritt, Andrea J. Carpenter, Joe M. Moody. University of Texas Health Science Center, San Antonio, TX

## **P2-I72**

### **Rapid Diagnosis of Thrombus in Transit by TTE Avoids Potentially Devastating Complication of Thrombolytic Therapy as Well as Minimizing Long Term Morbidity**

Steven Krall, Paul Cremer, Deborah Agler, Andrej Alferivic, Venugopal Menon, Zhen-Yu Tong, Richard A. Grimm. Cleveland Clinic, Cleveland, OH

## **P2-I73**

### **Single Leaflet Device Attachment (SLDA) Following MitraClip: Accurate Diagnosis by Real Time 3D-transesophageal Echocardiography**

Rajesh Janardhanan, Naktal Hamoud, Micah Shane Scully. Sarver Heart Center, Banner-University Medical Center, Tucson, AZ

## **P2-I74**

### **Advanced Cardiac Imaging Techniques can Assist in Characterizing Cardiac Masses and Directing Management**

Chadi Ayoub, Sushil A. Luis, Joseph J. Maleszewski, Patricia A. Pelikka. Mayo Clinic, Rochester, MN

## **P2-I75**

### **A Rare Case of Mitral Valve Aneurysm with Perforation: Mimicking as a Mitral Valve Mass**

Rajesh Janardhanan. Sarver Heart Center, Banner-University Medical Center, Tucson, AZ

## **P2-I76**

### **First Reported Case of IgG4 Related Disease Manifesting as a Pulmonary Artery Mass**

Jie Yang, Hong Zheng, Glenn Egrie, Andrew Rosenblatt. California Pacific Medical Center, San Francisco, CA

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### **The Utility of Echocardiography in the Diagnosis and Management of a Patient with a Giant Right Coronary Artery Aneurysm with Coronary Cameral Fistula**

Lee A. Goeddel, Erin D. Michos, Mary B. Brady, Laebn Lester. Johns Hopkins University School of Medicine, Baltimore, MD

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### **Rare Case of Anomalous Coronary Artery Course**

Alekhyia Potluri, Sourabh Prabhakar, Jeffrey Mueller, Poornima G. Indu. Allegheny Health Network, Pittsburgh, PA

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### **Catheterization Lab or Operating Room? Echo and CT Guiding the Management of an Aortic to Right Ventricular Fistula**

Adam Putschoegl, Angela Kelle, Jonathan Johnson, Alberto Pochettino, Crystal Bonnicksen. Mayo Clinic, Rochester, MN

## P2-180

### **Echocardiographic Features of Cardiomyopathy Associated with ANT 1 Mutation**

Devyani Chowdhury<sup>1</sup>, Christine Pascua<sup>2</sup>, Kevin Strauss<sup>3</sup>, Erik Puffenberg<sup>3</sup>, Bart Bijmens<sup>4</sup>. <sup>1</sup>Cardiology Care for Children, Lancaster, PA; <sup>2</sup>Children's Hospital of Philadelphia, Philadelphia, PA; <sup>3</sup>Clinic for Special Children, Strasburg, PA; <sup>4</sup>UPF, Barcelona, Spain

## P2-181

### **Contrast Doppler versus Conventional Echocardiography for Evaluation of Aortic Stenosis Severity**

Aswini Kumar<sup>1</sup>, Aswanth Reddy<sup>2</sup>, Kan Liu<sup>1</sup>. <sup>1</sup>SUNY Upstate Medical University, Syracuse, NY; <sup>2</sup>Saint Vincent Hospital, Worcester, MA

## P2-182

### **A Case of Methemoglobinemia from Topical Lidocaine Following Transesophageal Echocardiography**

Niyati Y. Goradia<sup>1</sup>, Sumeet Pawar<sup>2</sup>, Sana Shah<sup>2</sup>. <sup>1</sup>Boston University, Boston, MA; <sup>2</sup>Boston Medical Center, Boston, MA

## P2-183

### **Intraoperative TEE for Total Endoscopic Repair of a Rheumatic Mitral Valve**

Nikolaos J. Skubas, Christopher Tam, Meghann Fitzgerald, T. Sloane Guy, IV. Weill Cornell Medicine, New York, NY

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### **3-D Assessment of an Intracardiac Serpentine**

Hong Zheng. California Pacific Medical Center, San Francisco, CA

## P2-185

### **Use of Echo Contrast During Pericardiocentesis: Your Friend in Emergent Situations!**

Venu Gourineni, Fareed Collado, Jason M. Rodriguez, Steven Feinstein. Rush University Medical Center, Chicago, IL

## P2-186

### **It's Not a Tumor: Presentations of Right Ventricular Outflow Tract Pseudoaneurysms**

Nicole M. Cresalia, Gregory Ensing. University of Michigan, Ann Arbor, MI

## P2-187

### **Distinguishing Subvalvular versus True Valvular Aortic Stenosis: Role of the Pacemaker**

Mistyann-Blue Miller, Andrew Kohut. Drexel University College of Medicine/Hahnemann University Hospital, Philadelphia, PA

## P2-188

### **Improved Characterization of Mitral Paravalvular Leak Size in Real Time by Visualizing the Defect from the Left Ventricle**

Jennifer H. Neary, Ernesto Salcedo, Robert Quaife, John Carroll, Michael Kim. University of Colorado Hospital, Denver, CO

Disclosures: E. Salcedo – 4 (Philips); R. Quaife – 4 (Philips); J. Carroll – 1, 4 (Philips), 2 (Abbott); M. Kim – 2 (Philips, Abbott)

## P2-189

### **Catching a Serpent by Echo: Role of Echocardiographic Images in Diagnosis and Management of a Case with a Massive Migrating Thrombus**

Divyashree Varma<sup>1</sup>, Pratik K. Dalal<sup>1</sup>, Ripa Chakravorty<sup>1</sup>, Joe M. Moody<sup>1</sup>, Son V. Pham<sup>2</sup>, Ali J. Mehr<sup>1</sup>. <sup>1</sup>University of Texas Health Science Center, San Antonio, TX; <sup>2</sup>Audie Murphy South Texas Veteran's Affairs Hospital, San Antonio, TX

## P2-190

### **A Rare Case of an Acquired Continuous Murmur: A Complication Following Aortic Valve Replacement**

Rajesh Janardhanan, Safal Shetty, Naktal Hamoud, Keri O'Farrell, Scott Lick. Sarver Heart Center; Banner-University Medical Center, Tucson, AZ

## P2-191

### **Left Atrial Thrombus After LARIAT Away from the Site of Occlusion: Coincidence or Pattern?**

Saroj Neupane, Zain Azzo, Gerald Cohen. St John Hospital and Medical Center, Detroit, MI

Disclosures: G. Cohen – 1 (Lantheus Medical Imaging)

## P2-192

### **Delayed Suicide Left Ventricle following Transcatheter Aortic Valve Implantation**

Ankur Gupta, Ashequl M. Islam, Leng Jiang. Baystate Medical Center, Springfield, MA

## P2-193

### **Remember the Unicuspid Valve**

Jae Yoon Park, Robert L. Frye. Mayo Clinic, Rochester, MN

## P2-194

### **A Reversible Tako-tsubo Effect and "Reverse McConnell's Sign" in a Patient with Coronary Artery Disease**

Yun Cheng<sup>1</sup>, Jin Chen<sup>1</sup>, Jing Yan<sup>1</sup>, Kan Liu<sup>2</sup>. <sup>1</sup>Zhejiang Hospital, Hang Zhou, China; <sup>2</sup>SUNY Upstate Medical University, Syracuse, NY

## P2-195

### **Biventricular Takotsubo Cardiomyopathy: Increasing Prevalence or Recognition?**

Mitkumar Patel, Juan C. Mendieta Hernandez, Leng Jiang. Baystate Medical Center, Springfield, MA

## P2-196

### **Rare Case of Right Atrial Appendage Thrombus in an Orthotopic Heart Transplant Patient**

Alekhyia Potluri, Orestis Pappas, Amresh Raina. Allegheny Health Network, Pittsburgh, PA

## **P2-197**

### **Massive Metastatic Melanoma Isolated to the Interventricular Septum**

Emmanuel Ekanem<sup>1</sup>, Hassan Tabandeh<sup>2</sup>, Ivan Petrovitch<sup>2</sup>. <sup>1</sup>Georgetown University Hospital, Silver Spring, MD; <sup>2</sup>Virginia Hospital Center, Arlington, VA

## **P2-198 WITHDRAWN**

## **P2-199**

### **Dynamic Pulmonary Regurgitation after Cardiac Transplantation**

Sophia Airhart, Claudius Mahr, G. Burkhard Mackensen, Nahush Mokadam, S. Carolina Masri, Jay Pal. University of Washington, Seattle, WA

Disclosures: C. Mahr – 2 (Abiomed, HeartWare, St. Jude); J. Pal – 2 (HeartWare, Thoratec)

## **P2-200**

### **Where is the Aortic Valve?**

Tia Gordon, Issam Mikati. Northwestern Memorial Hospital, Chicago, IL

## **P2-201**

### **Where did the ICD Lead go?**

Megan Yamat, Roberto Lang, Amita Singh, Anuj Mediratta, Victor Mor-Avi, Karima Addetia. University of Chicago Hospital, Chicago, IL

Disclosures: R. Lang – 1, 4 (Philips)

## **P2-202**

### **Cardiac Amyloidosis Primarily Presenting as Severe Mitral Regurgitation. A Case Series to Highlight the use of Contemporary Imaging Modalities, and Their Ability to Detect Pathology**

Mustafa N. Muhammad<sup>1</sup>, Khawaja Ammar<sup>1,2</sup>, Syed Haris A. Pir<sup>1</sup>, Mirza Mujadil Ahmad<sup>1</sup>, Mirza Nubair Ahmad<sup>1</sup>, Bijoy Khandheria<sup>1</sup>, Tanvir Bajwa<sup>1</sup>, Steven C. Port<sup>1</sup>, Sohail Allaqaband<sup>1</sup>, Renuka Jain<sup>1</sup>, A. Jamil Tajik<sup>1</sup>. <sup>1</sup>Aurora St. Luke's Medical Centre, Milwaukee, WI; <sup>2</sup>Aurora St Luke's Medical Center, Milwaukee, WI

## **P2-203**

### **Libman-Sacks Endocarditis, Rheumatic Heart Disease or Both: A Rare Case with Unique Imaging Findings**

Mayank Sardana, Ibrahim Kassas, Jeffrey A. Shih. University of Massachusetts Medical School, Worcester, MA

## **P2-204**

### **Constrictive Pericarditis After Cardiac Surgery: An Unexpected Etiology Revealed by Echocardiography**

Allan Chen, Aarti Patel, Arthur Labovitz. University of South Florida, Tampa, FL

## **P2-205**

### **Intravenous Leiomyomatosis with Cardiac Involvement**

Nina Rashedi, Aneet Patel, Alec Moorman, Gabriel Aldea. University of Washington Medical Center, Seattle, WA

## **P2-206**

### **A Yo-Yo in the Heart: 3-Dimensional Echocardiographic View of a Serpiginous, Mobile Intracardiac Mass**

Chung Sang Tse, Roger L. Click. Mayo Clinic, Rochester, MN

## **P2-207**

### **TEE-Guided MitraClip Deployment in a Patient with a Zenker's Diverticulum**

William Katz, Kevin Mcgrath, Gail Hiles, Joao Cavalcante, Frederick Crock, Vinay Badhwar, Anson J. Smith. University of Pittsburgh, Pittsburgh, PA

## **P2-208**

### **The Case of Mysterious Cardiac Masses**

Ripa Chakravorty, John Erikson, Rushit Kanakia. UT Health Science Center, San Antonio, TX

## **P2-209 WITHDRAWN**

## **P2-210**

### **Transesophageal Echocardiography Facilitating Diagnosis of Multiple Paradoxical Emboli in a High Risk Patient**

Shahab K. Pathan, Faraz Pathan. The Menzies Institute for Medical Research, Hobart, Australia

## **P2-211**

### **Delayed Repercussions of Blunt Trauma: Isolated Muscular Ventricular Septal Defect**

Angela M. Kelle, Mohammed Al-Hijji, Jae Y. Park, Joseph A. Dearani, Nathaniel W. Taggart. Mayo Clinic, Rochester, MN

## **P2-212**

### **40-Year-Old with Coronary Compression from Aortic Aneurysm Following Waterston Shunt and Complete Repair of Tetralogy of Fallot**

Carolyn M. Wilhelm, Jenne K. Hickey, Patrick McConnell, Kan Hor, May Ling Mah. Nationwide Children's Hospital, Columbus, OH

## **P2-213**

### **It's Never too Late for Cardiotoxicity Screening**

Rachel Phillion, Lenora Eberhart, Erica Saari, Dale Chilton, Abigail Wenzlick, David Langholz. Spectrum Health, Grand Rapids, MI

## **P2-214**

### **A Case of a Male with Anorexia Nervosa, Second-degree Heart Block and Subclinical LV Systolic Dysfunctions: Role of Longitudinal Strain in Early Detection and Follow-up**

Mohammed S.A. Qasem, Ajaz Ahamad, Mohammed Khalid. Prince Sultan Cardiac Center, Buryda Algassim, Saudi Arabia

## **P2-215**

### **A Case of Atypical Anginal Pain Presented with LM Disease: Role of Strain Image in Early Detection of Coronary the Diagnosis**

Mohammed S.A. Qasem. Prince Sultan Cardiac Center, Buryda Algassim, Saudi Arabia

## **P2-216**

### **A Case of Takotsubo Cardiomyopathy with Prominent Post Systolic Shortening During the Recovery Phase**

Go Hashimoto, Makoto Suzuki, Kenji Makino, Hiromasa Hayama, Yukiko Isekame, Hisao Yoshikawa, Takenori Otsuka, Hidehiko Hara, Masao Moroi, Masato Nakamura. Division of Cardiovascular Medicine, Toho University Ohashi Medical Center, Tokyo, Japan

## P2-217

### Unrepaired Persistent Truncus Arteriosus with Heart Function of NYHA Class I in a 32-Year-Old Woman

Cuizhen Pan<sup>1</sup>, Xianhong Shu<sup>1</sup>, Dehong Kong<sup>1</sup>, Jing Hang<sup>1</sup>, Leng Jiang<sup>2</sup>.  
<sup>1</sup>Zhongshan Hospital of Fudan University, Shanghai, China; <sup>2</sup>Baystate Medical Center, Springfield, MA

## P2-218

### Mitro-aortic Intervalvular Fibrosa (MAIVF) Aneurysm in a Patient with Loeys-Dietz Syndrome

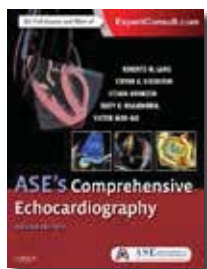
Oluwatosin Fatusin, Narutoshi Hibino, Luca Vricella, Shetarra Walker. Johns Hopkins Hospital, Department of Pediatric Cardiology, Baltimore, MD

## P2-219 WITHDRAWN

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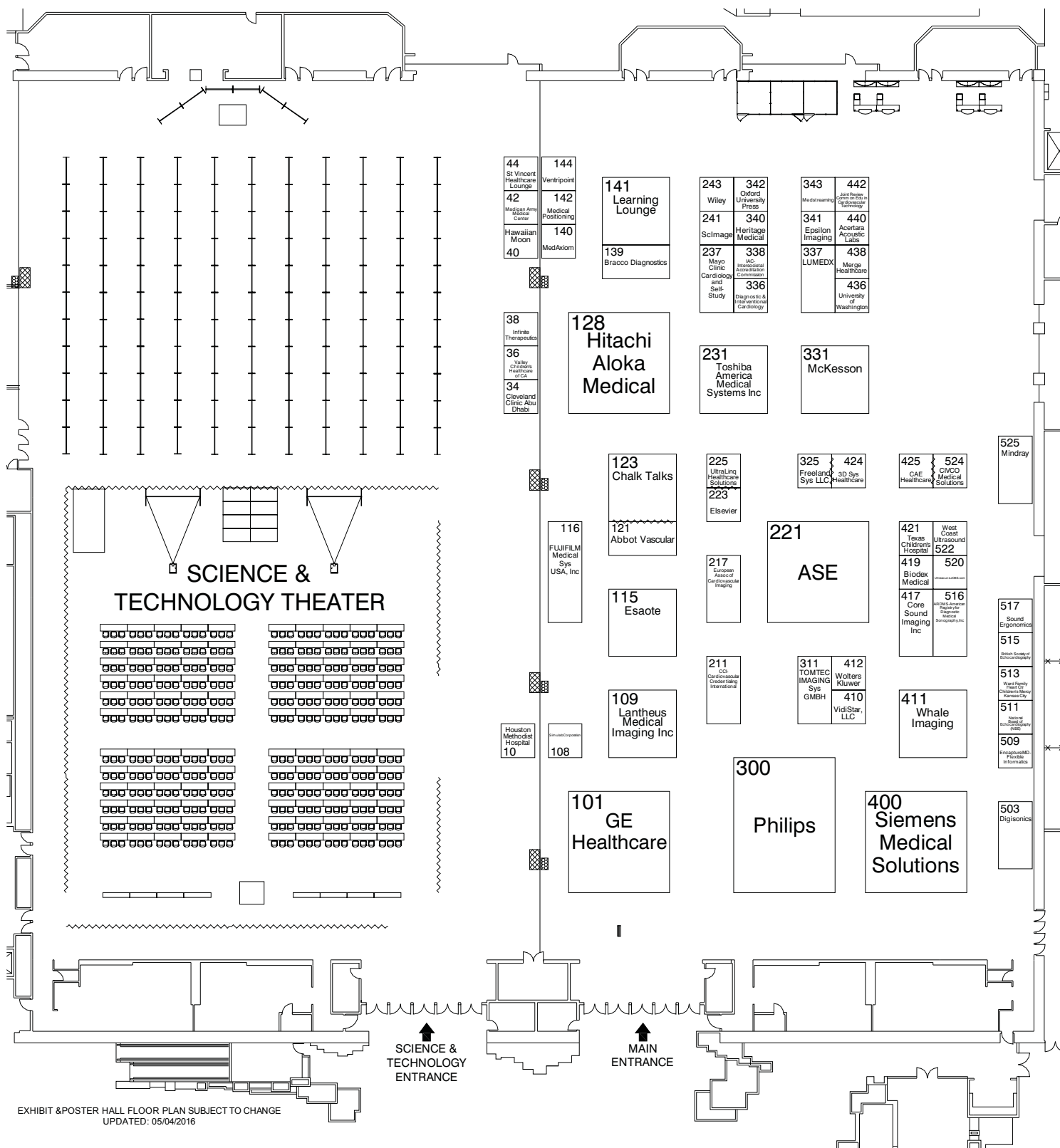


EXHIBIT & POSTER HALL FLOOR PLAN SUBJECT TO CHANGE  
UPDATED: 05/04/2016

# Exhibit & Poster Hall

## EXHIBIT & POSTER HALL HOURS

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### SATURDAY, JUNE 11

President's Reception .....4:30 – 6:30 PM

**SUNDAY, JUNE 12** .....9:00 AM – 4:00 PM

**MONDAY, JUNE 13** .....9:00 AM – 4:00 PM

## EXHIBIT & POSTER HALL BREAK SCHEDULE

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### SUNDAY, JUNE 12

Coffee Breaks .....9:30 – 10:15 AM

2:45 – 3:30 PM

Lunch Break .....11:45 – 1:15 PM

### MONDAY, JUNE 13

Coffee Breaks .....9:30 – 10:15 AM

2:45 – 3:30 PM

Lunch Break .....11:45 AM – 1:15 PM

## SCIENCE & TECHNOLOGY THEATER SCHEDULE

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ASE will provide lunch on a first come, first served basis (max. 350 participants) for attendees of the Science & Technology Theater.

### SATURDAY, JUNE 11

11:30 AM – 1:00 PM

**Are You Really Improving Quality with Contrast Echocardiography?**

Presented by Lantheus Medical Imaging

### SUNDAY, JUNE 12

11:45 AM – 1:15 PM

**The Power of cSound™: Revolutionizing Cardiovascular Ultrasound**

Presented by GE Healthcare

### MONDAY, JUNE 13

11:45 AM – 1:15 PM

**Current and Emerging Innovations in Echocardiography**

Presented by Philips

### TUESDAY, JUNE 14

11:30 AM – 1:00 PM

**Transcatheter Mitral Valve Repair: A New Frontier for the Echocardiographer**

Presented by Abbott Vascular



## WHERE INNOVATION AND SCIENCE MEET

ASE encourages you to visit the Exhibit & Poster Hall on Level 4 of the convention center. The exchange of information and access to new concepts, technology, devices, and research is a vital component of professional development. Get face-to-face with the industry's leading developers and executives who can help you discover what's new, assist you in making the right choices for your institution, and show you ways to reduce costs and improve productivity. Network with colleagues and friends while experiencing the best our rapidly-changing industry has to offer, including the newest equipment and devices as well as the latest in research and development. While you're here, grab a cup of coffee, lunch, or snack.

The showcase of investigators from around the world presenting cutting-edge research on the latest advances in cardiovascular ultrasound is a highlight of ASE's Scientific Sessions. Spend time in the poster area and gain firsthand knowledge and insight from scientific investigators.

**DON'T MISS DAILY POSTER SESSIONS ON SUNDAY AND MONDAY. MORE DETAILED INFORMATION CAN BE FOUND ON PAGE 67 OF THIS PROGRAM.**

## ASE HEADQUARTERS BOOTH #221

As the largest organization representing the cardiovascular ultrasound community, ASE is a vibrant and progressive organization. Visit the ASE Headquarters booth #221 to find comprehensive information on all of our educational programs and products, membership opportunities, and advocacy efforts. In addition, don't miss the debut of exciting new products and services designed to help with your practice of cardiovascular ultrasound. ASE staff is available to help you find whatever it is you need. If you have not logged into ASEUniversity or used Connect@ASE, come by for a tutorial. While you are there, be sure to pick up your complimentary copy of the updated ASE guidelines.

## FREE DEMOS OF ECHO TEST AND TEACH APPLICATION

Are you challenged to ensure consistent quality echocardiograms? Do you need the freedom of a hands-on, real-world training experience without being tied to an imaging device? Echo Test and Teach is your answer. Designed through the expert guidance of Harvey Feigenbaum, MD, FASE, and founder of ASE, this application enhances the skills of sonographers and physicians in the measurement and interpretation of echocardiograms. It also supports quality improvement standards, including variability and correlation between different modalities in the measurement and interpretation of cardiovascular ultrasound images. Earn up to 10 AMA PRA Category 1 Credits™ per year. Visit the ASE

Headquarters booth #221 in the Exhibit & Poster Hall on Level 4 for a **FREE DEMO**.

## ECHO BINGO

Join in the fun! Each attendee will receive a set of ECHO Bingo Cards in their Conference Bag at Registration. Visit the exhibitors in the Exhibit & Poster Hall with a new bingo card each day. The exhibiting company will stamp your card. Bring your stamped card, completed either by row, column, or diagonally, to the ASE Headquarters Booth #221 to be entered into the drawing. Play all three cards! The drawing will be held on Monday, June 13 in the Exhibit & Poster Hall during the afternoon break 2:45-3:30 PM. **Must be present to win.**

### First Prize: Valued at Over \$1550 Includes:

- » Complimentary Full Meeting Registration for ASE 2017 Annual Scientific Sessions in Baltimore, MD.
- » Hotel Accommodations at one of the designated hotels during ASE 2017 Annual Scientific Sessions
- » ASE membership through December 31, 2017

*Prize is Transferable — but must be utilized for the 2017 Scientific Sessions. All elements of the prize must be utilized by the same individual.*

### Second Prize: Valued at \$225

- » ASE Guideline Reference Book

### Third Prize: Valued at \$50

- » Pocket Guideline Bundle (six pocketguides included)

## ECHO AROUND THE WORLD

Located at the ASE Headquarters booth #221, visit Echo Around the World and explore literature, courses, and information from echocardiography societies worldwide. Take a trip around the world of echocardiography; no passports required. Learn about ASE's International Alliance Program members and their contributions to ASE and the field of echocardiography.

## MEET FACE TO FASE

Are you interested in becoming a Fellow of the American Society of Echocardiography (FASE) but have questions about whether you may qualify? Stop by the ASE Booth #221 in the Exhibit Hall, during the morning and afternoon breaks on Sunday and Monday, to talk one-on-one with a member of the FASE Advisory Group or ASE staff about any questions you have about achieving the FASE designation.



# Science & Technology Theater Schedule

## SATURDAY, JUNE 11

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11:30 AM – 1:00 PM

### **Are You Really Improving Quality with Contrast Echocardiography?**

*Presented by Lantheus Medical Imaging*

Join expert faculty in an interactive panel discussion on contrast echocardiography followed by a moderated Q&A session.

## SUNDAY, JUNE 12

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11:45 AM – 1:15 PM

### **The Power of cSound™: Revolutionizing Cardiovascular Ultrasound**

*presented by GE Healthcare*

Please join us to see how the Vivid™ E95 with cSound technology is changing the field of cardiovascular ultrasound from everyday workflow to 4D TEE.

## MONDAY, JUNE 13

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11:45 AM – 1:15 PM

### **Current and Emerging Innovations in Echocardiography**

*presented by Philips*

The challenges and constraints of cardiovascular ultrasound today require new tools for you to simplify and quicken the process of acquiring reproducible data and turning it into valuable information and proper care plans for your patients. Join our panel session to learn about the latest advancements and tools in echocardiography from our panel of industry experts, including recent results from a multi-center trial, the application of innovative echo techniques in the evaluation of cancer treatment-related cardiotoxicity, and the description and potential applications of Hyper 2D technology.

## TUESDAY, JUNE 14

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11:30 AM – 1:00 PM

### **Transcatheter Mitral Valve Repair: A New Frontier for the Echocardiographer**

*presented by Abbott Vascular*

Join renowned faculty in echocardiography and interventional cardiology to learn about the latest advances in TMVr and the critical role that echocardiography plays. Topics covered will include procedural guidance, quantitative measurements, and how interventionalists and echocardiographers can work together to ensure successful outcomes.

*Lunch is provided by ASE and is included in all Scientific Sessions registration fees, but space and boxed lunches are first come, first served. These sessions are not part of the official ASE 27th Annual Scientific Sessions, as planned by the Program Committee, or in any way endorsed or affiliated with ASE.*





Lantheus Medical Imaging presents

## Are You Really Improving Quality with Contrast Echocardiography?

### *Improving Patient Outcomes*

**Paul Bhella, MD, FAHA, FACC, FASE**

JPS Health Network, Fort Worth, TX

### *Contrast Implementation & Administration*

**Paul Braum, BS, RDCS, RCS, RVT, RVS, ACS, FASE**

Northeast Georgia Health System Inpatient and Outpatient Division, Gainesville, GA

### *The Impact of a Quality Program*

**Joan Crawford, DO, FACC, FASE, FASNC**

St. John Providence, Macomb and Oakland Center, Warren, MI

**Visit us  
at booth  
#109**

## Saturday, June 11, 2016

11:30 a.m. - 1:00 p.m.

Lunch provided · SDMS credit available

Science and Technology Theatre, Level 4, Hall B  
Washington State Convention Center  
Seattle, WA

Join expert faculty in an interactive panel discussion on contrast echocardiography followed by a moderated Q&A session.

See the advantages contrast echo has over unenhanced echo in diagnostic outcomes, patient management, and cost effectiveness. Understand the importance of establishing a quality program in your echo lab, and gain practical insight into the implementation and administration of contrast echo.

## Register at [Lantheus.com/rsvp](http://Lantheus.com/rsvp)

Lunch is provided by ASE and is included in all Scientific Sessions registration fees, but space and boxed lunches are first-come, first served. These sessions are not part of the official ASE 27th Annual Scientific Sessions, as planned by the Program Committee, or in any way endorsed or affiliated with ASE.

In accordance with the PhRMA Code on Interactions with Healthcare Professionals and individual state compliance, attendance at this educational program is limited to healthcare professionals. Accordingly, attendance by guests or spouses is not permitted.

# ASE 2016

## Educational Lunch Symposium

# The Power of cSound™: Revolutionizing Cardiovascular Ultrasound

Please join us to see how the Vivid™ E95 with cSound technology is changing the field of cardiovascular ultrasound from everyday workflow to 4D TEE.

**Sunday, June 12<sup>th</sup> 11:45 am – 1:15 pm**

Washington State Convention Center

**Moderator & Speaker:**

Bijoy Khandheria, MD, MBBS, FACP, FESC, FASE, FAHA, FACC,  
Aurora Healthcare, Milwaukee, WI

**Faculty:**

Rebecca Hahn, MD, FASE,  
Columbia University Medical Center, New York, NY

Farooq Chaudhry, MD, FACP, FACC, FASE, FAHA,  
Mt. Sinai, New York, NY

**Register now!**

<https://ge.cvent.com/vivid-2016>



Science & Technology Theater sessions are not part of the official ASE 27<sup>th</sup> Annual Scientific Sessions, as planned by the Program Committee, or in any way endorsed or affiliated with ASE.

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**PHILIPS**

ASE 2016

# Join us for a Science & Technology Theater Event

## Current and Emerging Innovations in Echocardiography

The challenges of cardiovascular ultrasound today require new tools for you to simplify the process of acquiring reproducible data and turning it into valuable information for patients. Join our panel session at ASE, moderated by Professor Mark Monaghan from King's College Hospital, to learn about the latest advancements in echocardiography from industry experts, including:

- Recent results from a multi-center trial with Dr. Victor Mor-Avi from the University of Chicago,
- Applications of innovative echo techniques in the evaluation of cancer treatment-related cardiotoxicity with Dr. Jennifer Liu of Memorial Sloan Kettering Cancer Center, and
- Potential applications of Hyper 2D technology with Pat Rafter, Clinical Scientist from Philips.

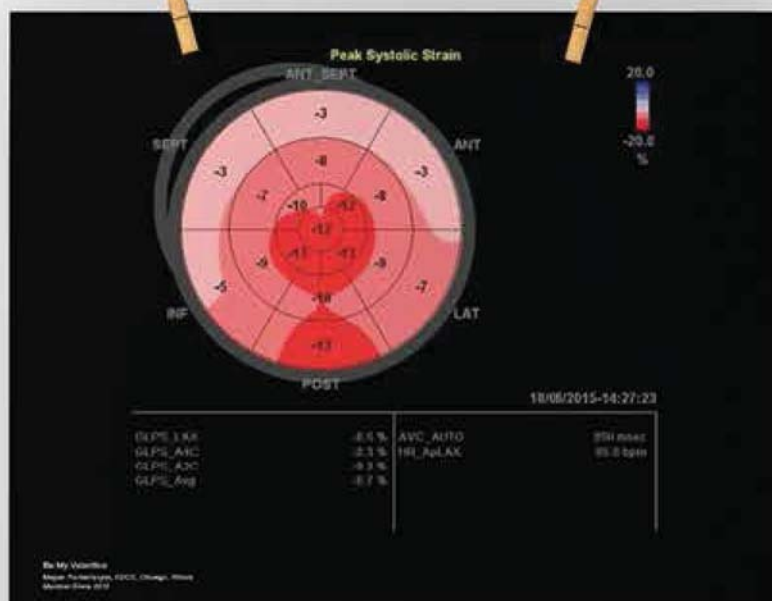


**Monday, June 13  
11:45 am - 1:15 pm**

**Session will be held adjacent to the Exhibit  
& Poster Hall**

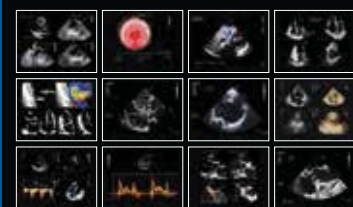
Science & Technology Theater sessions are not part of the official ASE Annual Scientific Sessions, as planned by the Program Committee, or in any way endorsed or affiliated with ASE

# Image Calendar COMPETITION is back for 2017



Deadline to  
submit images  
is August 12

2016 Calendar Images from ASE Members



Visit [ASEcho.org/ImageCalendar](http://ASEcho.org/ImageCalendar)  
for competition rules and instructions.



**ASE**

American Society of  
Echocardiography



# Exhibitor Assignments

## EXHIBITORS LISTED ALPHABETICALLY

Company	Booth
3D Systems, Healthcare	424
Abbott Vascular	121
Acertara Acoustic Labs	440
American Registry for Diagnostic Medical Sonography (ARDMS)	516
American Society of Echocardiography (ASE)	221
Biodex Medical Systems, Inc.	419
Bracco Diagnostics, Inc.	139
Bracco Diagnostics, Inc. Learning Lab	141
British Society of Echocardiography (BSE)	515
CAE Healthcare	425
Cardiovascular Credentialing International (CCI)	211
Cleveland Clinic Abu Dhabi	34
Core Sound Imaging, Inc.	417
Diagnostic and Interventional Cardiology	336
Digisonics	503
Echo Test and Teach	221
Elsevier	223
Epsilon Imaging, Inc.	341
Esaote North America	115
European Association of Cardiovascular Imaging (EACVI)	217
Flexible Informatics - EncaptureMD	509
Freeland Systems, LLC	325
FUJIFILM Medical Systems U.S.A., Inc.	116
GE Healthcare	101
Hawaiian Moon	40
Heritage Medical Products, Inc.	340
Hitachi Aloka Medical	128
Houston Methodist Hospital	10
Infinite Therapeutics	38
Intersocietal Accreditation Commission (IAC)	338
Joint Review Committee on Education in Cardiovascular Technology	442

Company	Booth
Lantheus Medical Imaging, Inc.	109
LUMEDX	337
Madigan Army Medical Center	42
Mayo Clinic	237
McKesson	331
MedAxiom	140
Medical Positioning, Inc.	142
Medstreaming	343
Merge Healthcare	438
Mindray North America	525
National Board of Echocardiography, Inc.	511
Oxford University Press	342
CIVCO Medical Solutions	524
Philips	300
ScImage, Inc.	241
Siemens Healthineers	400
Simulab Corporation	108
Sound Ergonomics LLC	517
St. Vincent Healthcare - SCL Health	44
Texas Children's Hospital	421
TOMTEC IMAGING SYSTEMS GMBH	311
Toshiba America Medical Systems, Inc.	231
UltraLinq Healthcare Solutions, Inc.	225
UltrasoundJOBS.com	520
University of Washington	436
Valley Children's Healthcare	36
Ventripoint, Inc.	144
Vidistar, LLC	410
Ward Family Heart Center - Children's Mercy Kansas City	513
West Coast Ultrasound Institute	522
Whale Imaging	411
Wiley	243
Wolters Kluwer	412



# Exhibitor Assignments

## EXHIBITORS LISTED NUMERICALLY

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Cleveland Clinic Abu Dhabi	34
Valley Children's Healthcare	36
Infinite Therapeutics	38
Hawaiian Moon	40
Simulab Corporation	108
Madigan Army Medical Center	42
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West Coast Ultrasound Institute	522
CIVCO Medical Solutions	524
Mindray North America	525

# Exhibitor Descriptions

## 3D Systems, Healthcare ..... 424

17301 West Colfax Avenue

Suite 300

Golden, CO 80401

United States

Phone: 303-273-5344

[symbionix.com](http://symbionix.com)

3D Systems is a leader in 3D modeling, simulation training, and 3D printing of personalized medicine. Comprehensive Echocardiography training offered on the U/S Mentor VR simulator provides thorough training in qualitative and quantitative TTE evaluation, and an enhanced TEE module for learning and practicing standard view acquisition and clinical reporting.

## Abbott Vascular ..... 121

121 3200 Lakeside Drive

Santa Clara, CA 95054

United States

Phone: 408-845-3000

[abbott.com](http://abbott.com)

Abbott (NYSE: ABT) is a global healthcare company devoted to improving life through the development of products and technologies that span the breadth of healthcare. With a portfolio of leading, science-based offerings in diagnostics, medical devices, nutritionals, and branded generic pharmaceuticals, Abbott serves people in more than 150 countries.

## Acertara Acoustic Labs ..... 440

1860 Lefthand Circle

Suite H

Longmont, CO 80501

United States

Phone: 303-834-8413

[acertaralabs.com](http://acertaralabs.com)

Acertara Acoustic Labs is an independent ISO9001:2008 and ISO13485:2003 certified company providing diagnostic ultrasound test equipment and advanced probe repair to clinics, hospitals, and ISOs. Our ISO17025:2005 accredited acoustic measurement laboratory delivers engineering services, acoustic testing, and calibration services to ultrasound OEMs and regulatory bodies around the world.

## American Registry for Diagnostic Medical Sonography (ARDMS) ..... 516

1401 Rockville Pike

Suite 600

Rockville, MD 20852

United States

Phone: 800-541-9754

[ARDMS.org](http://ARDMS.org)

The American Registry for Diagnostic Medical Sonography® (ARDMS), founded in 1975, is an independent, not-for-profit organization that administers examinations and awards credentials in the areas of medical ultrasound. With nearly 90,000 certified professionals worldwide, ARDMS is considered the global standard of excellence in sonography. For more information, visit [ARDMS.org](http://ARDMS.org).



## American Society of Echocardiography..... 221

2100 Gateway Centre Boulevard, Suite 310

Morrisville, NC 27560

United States

Phone: 919-861-5574

Fax: 919-882-9900

[ASEcho.org](http://ASEcho.org)

## Biodex Medical Systems, Inc ..... 419

20 Ramsey Road

Shirley, NY 11967

United States

Phone: 631-924-9000

[biodex.com/ultrasound](http://biodex.com/ultrasound)

Biodex exhibits the latest in Ultrasound Table technology. Our ergonomically-designed tables include features to help prevent musculoskeletal injury to sonographers. The Echo/Vasc Pro™ and Vasc Pro™ tables feature a NEW adjustable foot support, providing sonographers comfortable access to patients of various heights. Foot support conveniently tucks beneath the table.



## Bracco Diagnostics Inc ..... 139

259 Prospect Plains Road

Building H

Monroe Township, NJ 08831

United States

Phone: 609-514-2200  
[usa.braccoimaging.com](http://usa.braccoimaging.com)

Bracco Diagnostics Inc., a U.S.-based subsidiary of Bracco Imaging SpA, is a worldwide provider of diagnostic imaging solutions for use in CT, MR, Nuclear, and most recently for Ultrasound.

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**British Society of Echocardiography ..... 515**

Docklands Business Center  
10-16 Tiller Road  
London E14 8PX  
United Kingdom  
Phone: 011 44 0 20 7345 5185  
[bsecho.org](http://bsecho.org)

Visit the BSE at stand 328 and download the Echocalc for iPhone and Android. You can also get temporary access to our online Echo Library and other educational material.



**CAE Healthcare..... 425**

6300 Edgelake Drive  
Sarasota, FL 34240  
United States  
Phone: 941-377-5562  
[cae.com/healthcare](http://cae.com/healthcare)

CAE Healthcare offers advanced patient, surgical and imaging simulation, learning curriculum and simulation center management. Visit Stand 529 for a demo of CAE VIMEDIX, the only ultrasound simulator with the transthoracic, transesophageal, and abdominal-pelvic exams on one platform. Ask about CAE ICCU, the society-endorsed e-learning program for bedside ultrasound.



**Cardiovascular Credentialing International (CCI) . 211**

1500 Sunday Drive  
Suite 102  
Raleigh, NC 27607  
United States  
Phone: 800-326-0268  
[cci-online.org](http://cci-online.org)

CCI is a not-for-profit corporation established for the purpose of administering credentialing examinations as an independent credentialing agency. CCI began credentialing cardiovascular professionals in 1968. CCI offers eight credentials which, when earned, demonstrate that the registrant holds fundamental knowledge in the particular cardiovascular specialty. For more information, please visit [cci-online.org](http://cci-online.org).

**Cleveland Clinic Abu Dhabi..... 34**

Al Maryah Island  
Abu Dhabi  
United Arab Emirates  
Phone: 971 50 446 1517  
[clevelandclinicabudhabi.ae](http://clevelandclinicabudhabi.ae)

Consultant Physician opportunities are available for board-certified physicians to join the Heart and Vascular Institute at Cleveland Clinic Abu Dhabi, a multi-specialty hospital under construction in Abu Dhabi, United Arab Emirates. This 360 bed facility will be a unique and unparalleled extension of the Cleveland Clinic model of care.



**Core Sound Imaging, Inc..... 417**

Six Forks Road  
Suite 102  
Raleigh, NC 27615  
United States  
Phone: 919-277-0636, 866-332-2719  
[corestudycast.com](http://corestudycast.com)

Core Sound Imaging, Inc. is built upon the principles of superior software development and uncompromised business ethics. Studycast® and the suite of Core products are leading the way in SaaS medical imaging. Studycast® represents a breakthrough in imaging workflow for cardiologists, radiologists, and those who rely on their services.

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**Diagnostic and Interventional Cardiology ..... 336**

3030 W Salt Creek Lane  
Suite 201  
Arlington Heights, IL 60005  
United States  
Phone: 847-391-1000  
[DiCardiology.com](http://DiCardiology.com)

"The Trusted Resource for Technology and Clinical Applications in Diagnostic & Interventional Cardiology," DAIC showcases the latest technology, device and service solutions. Edited for cardiologists, interventional cardiologists, cardiology administrators, sonographers, cath lab personnel, IT professionals, and business administrators in hospitals and heart centers. Visit our booth for a free copy.

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**Digisonics..... 503**

3701 Kirby Drive  
Houston, TX 77098  
United States  
Phone: 800-940-3240

[digisonics.com](http://digisonics.com)

For over 40 years, Digisonics has provided standards-based and vendor-neutral cardiovascular information system solutions for all cardiovascular modalities. Digisonics solutions maximize efficiency by integrating and automating the entire complex workflow resulting in maximum productivity.

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**Echo Test and Teach ..... 221**

Schedule a Free Demo

Phone: 317-824-1225 ext. 14

Email: [sales@kelabs.com](mailto:sales@kelabs.com)

[ASEcho.org/Echo-Test-and-Teach/](http://ASEcho.org/Echo-Test-and-Teach/)

ASE and Ke Labs have collaborated to co-develop the Echo Test and Teach Application. Designed with the expert guidance of Dr. Harvey Feigenbaum, Echo Test and Teach is a "one-of-a-kind" software application for improving consistency and accuracy in the measurement and interpretation of cardiac ultrasound images as well as to educate users on interesting cases and new techniques. Visit Booth 221 for more information and a demo of the product.

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**Elsevier ..... 223**

1600 JFK Boulevard

Suite 1800

Philadelphia, PA 19103

United States

Phone: 215-239-3491

[elsevierhealth.com](http://elsevierhealth.com)

Elsevier, a premier worldwide health science publishing company, is proud to publish *Journal of the American Society of Echocardiography*, the official journal of the American Society of Echocardiography. Please stop by our booth to view the latest issue of the journal.

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**Flexible Informatics - Encapture MD..... 509**

19 Bala Avenue

Suite 203

Bala Cynwyd, PA 19004

United States

Phone: 800-399-7035

[encapturemd.com](http://encapturemd.com)

The EncaptureMD Web-based Image Review and Reporting system makes producing high-quality ICAEL, ICAVL, ICANL compliant medical procedure reports faster and easier. Modalities supported include Adult and Pediatric Echocardiography, Nuclear Cardiology, Vascular, Cath, and Electrophysiology. As physicians ourselves we designed the system to be easy to use and fully configurable.

**Epsilon Imaging, Inc ..... 341**

3917 Research Park Drive

Suite B7

Ann Arbor, MI 48108

United States

Phone: 734-369-5100

[epsilon-imaging.com](http://epsilon-imaging.com)

As a provider of workflow enhancing visualization and analysis software with strain imaging, Epsilon Imaging is transforming cardiac diagnostic workflow with a vendor neutral suite of applications designed for clinical echocardiography. EchoInsight assists clinicians with innovative visualization and analysis that enhances, standardizes, and streamlines analysis, interpretation and monitoring of echo. Learn more at [epsilon-imaging.com](http://epsilon-imaging.com)



**Esaote North America ..... 115**

8000 Castleway Drive

Indianapolis, IN 46250

United States

Phone: 317-813-6000

[esaoteusa.com](http://esaoteusa.com)

Esaote North America, part of the Esaote Group, is a global leader in research, production, and marketing diagnostic imaging equipment; with an emphasis on ultrasound and MRI. Find us at [esaoteusa.com](http://esaoteusa.com).

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**European Association of Cardiovascular Imaging (EACVI) ..... 217**

2035 Route des Colles Les Templiers BP-179

Sophia Antipolis 6903

France

Phone: 336-898-72038

[escardio.org/EACVI](http://escardio.org/EACVI)

EACVI mission: To promote excellence in clinical diagnosis, research, technical development and education in cardiovascular imaging in Europe.

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**Freeland Systems, LLC..... 325**

318 Montelluna Drive

North Venice, FL 34275

United States

Phone: 888-615-1888

[freelandsystems.com](http://freelandsystems.com)

AccessPoint Suite of products offer traditional in-house PACS products along with cloud-based storage, disaster recovery, and our browser-based PACS solution - cPac Pro.

AccessPoint BacPac serves as a network gateway integrating disparate products, directing data traffic to local or cloud-based storage devices, and providing a Nuance Powerscribe 360 reporting interface.



**FUJIFILM Medical Systems U.S.A., Inc** ..... **I16**  
 419 West Avenue  
 Stamford, CT 6902  
 United States  
 Phone: 800-431-1850  
[fujimed.com](http://fujimed.com)

FUJIFILM Medical Systems U.S.A., Inc. (Booth # I16) will be showcasing Synapse Cardiovascular V 6.0 at ASE 2016. This version is a total revision of the Echocardiography reporting package and features a fully re-engineered user interface and streamlined measurement package, all built on Fujifilm™ new Advanced Reporting platform.



**GE Healthcare** ..... **101**  
 9900 W. Innovation Drive  
 Wauwatosa, WI 53226  
 United States  
 Phone: 414-721-3096  
[gehealthcare.com](http://gehealthcare.com)

GE's "healthymagination" vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality and efficiency around the world. GE Healthcare is committed to serving healthcare professionals and their patients.

**Hawaiian Moon** ..... **40**  
 321 S Missouri Ave.  
 Clearwater, FL 33756  
 United States  
 Phone: 888-256-3276  
[aloecream.biz](http://aloecream.biz)

Say Goodbye to Dry Skin with Hawaiian Moon Organic Aloe Cream!

**Heritage Medical Products, Inc** ..... **340**  
 10380 CR 6310  
 West Plains, MO 65775  
 United States

Phone: 888-256-8748  
[sonobed.com](http://sonobed.com)

Since 1995, HMP is a Sonographer owned company specializing in ergonomic exam beds for all modalities of ultrasound. Manufacturing and distributing quality exam beds worldwide. We educate fellow Sonographers on the importance of ergonomics and the input of their decision when purchasing equipment.



**Hitachi Aloka Medical** ..... **I28**  
 10 Fairfield Boulevard  
 Wallingford, CT 06492  
 United States  
 Phone: 203-269-5088  
[hitachi-aloka.com](http://hitachi-aloka.com)

We are proud of the reputation we have built as an industry leader in diagnostic ultrasound. Known for our unparalleled image quality, superior system reliability and intuitive use of cutting edge technology, we remain the ideal choice for exceptional diagnostic ultrasound imaging in the field of cardiovascular medicine.

**Houston Methodist Hospital** ..... **10**  
 6560 Fannin St.  
 Houston, TX 77030  
 United States  
 Phone: 713-441-0225  
[houstonmethodist.org](http://houstonmethodist.org)

Houston Methodist's affiliated with the Weill Medical College of Cornell University and New York-Presbyterian Hospital. Consistently ranked in U.S. News & World Report's "Best Hospital" list, recently named the #1 hospital in Texas. FORTUNE magazine has placed Houston Methodist on its annual list of "100 Best Companies To Work For."

**Infinite Therapeutics** ..... **38**  
 68 Route 125  
 Kingston, NH 03848  
 United States  
 Phone: 603-347-6006  
[infinitetherapeutics.com](http://infinitetherapeutics.com)

Infinite Therapeutics is a division of Infinite Creative Enterprises (I.C.E.), a privately held company with a 20-year record of commitment to excellence. Our extraordinary success is powered by a management team with over 60 years combined experience in product design,



manufacturing, and supply chain logistics. Our executive team is integrally involved from product inception to final QA/QC.

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**Intersocietal Accreditation Commission (IAC)..... 338**

6021 University Boulevard  
Suite 500  
Ellicott City, MD 21043  
United States  
Phone: 800-838-2110  
[intersocietal.org](http://intersocietal.org)

A nonprofit organization highly regarded for its accreditation programs since 1990, the IAC offers accreditation for vascular testing, echocardiography, nuclear/PET, MRI, CT, dental CT, carotid stenting, vein treatment, and cardiac electrophysiology. The IAC programs are each dedicated to one common mission: Improving health care through accreditation®. Learn more at [intersocietal.org](http://intersocietal.org).

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**Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT) ..... 442**

6 Pine Knoll Drive  
Beverly, MA 01915  
United States  
Phone: 978-456-5594  
[jrcvct.org](http://jrcvct.org)

JRC-CVT, a Committee on Accreditation member of the Commission on Accreditation of Allied Health Education Programs (CAAHEP), provides accreditation services to certificate and degree programs in colleges and hospitals for any of five concentrations in cardiovascular technology. JRC-CVT is sponsored by ACC, ACR, ASE, SDMS, SICP, and SVU.



**Lantheus Medical Imaging, Inc ..... 109**

331 Treble Cove Road  
North Billerica, MA 01862  
United States  
Phone: 800-362-2668  
[lantheus.com](http://lantheus.com)

Lantheus Medical Imaging, [lantheus.com](http://lantheus.com), a global leader in developing, manufacturing, selling and distributing innovative diagnostic imaging agents primarily used for the diagnosis of cardiovascular diseases, is headquartered in North Billerica, Massachusetts, with offices in Puerto Rico, Canada, and Australia.



**LUMEDX ..... 337**

555 12th Street  
Oakland, CA 94607  
United States  
Phone: 510-419-1000  
[lumedx.com](http://lumedx.com)

LUMEDX is the market leader in fully integrated, vendor-neutral cardiovascular information and imaging systems (CVIS). LUMEDX has helped more than 700 heart centers worldwide streamline and improve their CV workflows. In 2013, LUMEDX's client base totaled more than 60% of the U.S. News & World Report Best Hospitals.

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**Madigan Army Medical Center ..... 42**

9040 Fitzsimmons Drive  
Tacoma, WA 98431  
United States  
Phone: 253-968-3320  
[mamec.amedd.army.mil](http://mamec.amedd.army.mil)

Madigan offers outstanding Graduate Medical and Nursing Education Programs. Physician, nurse and medic students enrolled in Madigan's Graduate Medical Education programs consistently score in the 90th percentile on state and national examinations. Additionally, Madigan's Andersen Simulation Center, which helps train thousands of doctors, nurses and medics each year, holds the distinction of being the first educational institution in the Department of Defense accredited by the American College of Surgeons.

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**Mayo Clinic ..... 237**

200 First Street SW  
Rochester, MN 55905  
United States  
Phone: 800-283-6296  
[mayoclinic.org](http://mayoclinic.org)

Established in 1981, the Mayo Clinic Echocardiography Laboratory is one of the largest clinical, educational, and research echocardiographic laboratory facilities of its kind in the world. At Mayo Clinic, patients benefit from the integration of cardiologists, cardiovascular surgeons, and other specialists, to determine the appropriate care.

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**McKesson ..... 331**

5995 Windward Parkway  
Alpharetta, GA 30005  
United States  
Phone: 404-338-2317  
[mckesson.com](http://mckesson.com)

McKesson Cardiology™ is a cardiovascular information system (CVIS) for fetal to adult care (including congenital

that supports echocardiography, vascular ultrasound, nuclear cardiology, catheterization, hemodynamics monitoring, electrophysiology, and ECG/stress/holter management. Built on a singular platform, McKesson Cardiology focuses on streamlining workflows to help boost efficiencies and reduce costs.

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**MedAxiom ..... 140**

2050 King Circle South  
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United States  
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[medaxiom.com](http://medaxiom.com)

MedAxiom is a community of healthcare leaders focused on creating innovative solutions that influence and drive value in healthcare delivery, patient quality and outcomes by leveraging best-in-class data analytics, healthcare management expertise, and shared experiences.

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**Medical Positioning, Inc ..... 142**

1717 Washington Street  
Kansas City, MO 64108  
United States  
Phone: 800-593-3246

[medicalpositioning.com](http://medicalpositioning.com)

MPI manufactures and sells patented specialty platforms designed to improve diagnostic imaging. Every product we offer comes with a story. Your story. The story of a cardiologist who demands more precise imaging. The story of a sonographer who wants a table that is simpler to use and offers pain-free operation.

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**Medstreaming..... 343**

8201 164th Avenue NE  
Suite 200  
Redmond, WA 98116  
United States  
Phone: 206-724-2044

[medstreaming.com](http://medstreaming.com)

Medstreaming Cardiovascular Data-center establishes an exchange for the consolidation and dissemination of clinical based evidence for multiple modalities supporting all standards based vendors equipment. Medstreaming Cardiovascular Data-center affords both reading and referring physicians the capability to monitor and review a patient's images and reports.



**Merge Healthcare ..... 438**

200 E Randolph Street  
STE 2435  
Chicago, IL 60601  
United States  
Phone: 312-565-6868

[merge.com](http://merge.com)

Merge Healthcare is a leading provider of enterprise imaging and interoperability solutions. Merge solutions facilitate the sharing of images to improve the electronic healthcare experience.

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**Mindray North America ..... 525**

800 MacArthur Boulevard  
Mahwah, NJ 07430  
United States  
Phone: 201-995-8000

[na.mindray.com](http://na.mindray.com)

Mindray North America is headquartered in New Jersey. Mindray has been providing medical solutions to medical professionals, worldwide, for over 20 years. M7 & M5, laptop style ultrasound systems, are a practical and effective tool for clinical specialists.

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**National Board of Echocardiography, Inc..... 511**

1500 Sunday Drive  
Suite 102  
Raleigh, NC 27607  
United States  
Phone: 919-861-5582

[echoboards.org](http://echoboards.org)

As the national examination and certification body for Clinical Echocardiography, the NBE serves as a not-for-profit corporation established to publically recognize those physicians who have completed an approved training program in echocardiography and have passed the ASCeXAM.

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**Oxford University Press ..... 342**

2001 Evans Road  
Cary, NC 27513  
United States  
Phone: 919-677-0977

[oxfordjournals.org](http://oxfordjournals.org)

[oup.com](http://oup.com)

Oxford University Press publishes some of the most prestigious medical books and journals in the world, including the newly titled European Heart Journal.

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**CIVCO Medical Solutions ..... 524**

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Phone: 860-526-2862  
[pcimedical.com](http://pcimedical.com)

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**Philips ..... 300**

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Phone: 800-934-7372  
[philips.com/healthcare](http://philips.com/healthcare)

Philips is a technology company focused on improving people's lives through meaningful innovation across the health continuum, from healthy living and prevention to diagnosis, treatment, and home care. It's a unique perspective empowering us all to create a healthier future.

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**ScImage, Inc ..... 241**

4916 El Camino Real  
Suite 200  
Los Altos, CA 94022  
United States  
Phone: 650-694-4858  
[scimage.com](http://scimage.com)

ScImage provides Cardiology's most comprehensive enterprise imaging solution with end to end imaging workflow and eliminates the barriers of multiple diagnostic disciplines in cardiology; tying together all images in a single database for management, storage, reporting and distribution to generate efficiencies and ease of access with a single sign-on.

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**Siemens Healthineers ..... 400**

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Malvern, PA 19355  
United States

Phone: 610-448-4500  
[usa.healthcare.siemens.com](http://usa.healthcare.siemens.com)

Siemens Healthineers helps providers meet clinical, operational and financial challenges. A global leader in medical imaging, laboratory diagnostics and IT, we understand the entire care continuum from prevention and early detection to diagnosis and treatment. For more: [usa.healthcare.siemens.com](http://usa.healthcare.siemens.com)

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**Simulab Corporation ..... 108**

13001 48th Avenue S.  
Seattle, WA 98168  
Phone: 206-299-1260  
[simulab.com](http://simulab.com)

About Simulab® Corporation. Simulab is deeply committed to creating industry leading, easy-to-use, portable, affordable, and clinically-relevant substitutes for both animal and human subjects used in medical training.

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**Sound Ergonomics, LLC ..... 517**

6830 NE Bothell Way  
#C-236  
Kenmore, WA 98028  
United States  
Phone: 425-489-3839  
[soundergonomics.com](http://soundergonomics.com)

Sound Ergonomics, LLC provides consulting services and ergonomic products for the prevention of occupational musculoskeletal disorders in allied health personnel with a particular focus on ultrasound. Our services include educational programs, worksite evaluations, and accreditation compliance programs. Our products include ergonomic chairs, arm support devices and a line of exam tables.

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**St. Vincent Healthcare - SCL Health ..... 44**

1233 N. 30th  
Billings, MT 59101  
United States  
Phone: 406-237-4002  
[svh-mt.org](http://svh-mt.org)

At St. Vincent Healthcare, we are committed to providing exceptional patient care, and providing a higher quality of life for our physicians. Located in a family friendly community, and as one of the largest medical facilities in the region, we provide big city Cardiology care in a better family environment.

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**Texas Children's Hospital ..... 421**

6621 Fannin Street  
Houston, TX 77030

United States  
Phone: 832-824-1000  
[texaschildrens.org](http://texaschildrens.org)

Texas Children's Hospital is committed to creating a healthier future for children throughout the global community by leading in patient care, education and research. Consistently ranked among the best children's hospitals in the nation, Texas Children's has garnered widespread recognition for its expertise and breakthroughs in pediatric health.

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**TOMTEC IMAGING SYSTEMS GMBH ..... 311**

525 W. Monroe Street  
Chicago, IL 60661  
United States  
Phone: 704-554-1289  
[tomtec.de](http://tomtec.de)

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**Toshiba America Medical Systems Inc.....231**

2441 Michelle Drive  
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United States  
Phone: 714-669-4190  
[medical.toshiba.com](http://medical.toshiba.com)

Toshiba America Medical Systems, Inc. understands today's healthcare business and delivers diagnostic imaging and interventional solutions that put customers first. Toshiba markets, sells, distributes and services these solutions throughout the U.S. It is committed to listening to customers and giving them a voice through patient-focused technology and superior customer service.

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**UltraLinq Healthcare Solutions, Inc..... 225**

236 West 30th Street, 15th Floor  
New York, NY 10001  
Phone: 646-666-9575  
[ultralinq.com](http://ultralinq.com)

UltraLinq is a cloud-based image management service for evaluating, sharing, and archiving your imaging exams and reports.

**UltrasoundJOBS.com ..... 520**

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Hanover, MA 02339  
United States  
Phone: 781-795-1350  
[ultrasoundjobs.com](http://ultrasoundjobs.com)

For over a decade, UltrasoundJOBS.com has aligned top-quality sonography professionals with premier employers. As the leading sonography career website, employers, and job seekers have unlimited access to the tools and resources they need to target the sonography market. UltrasoundJOBS.com is the exclusive career website of the ARDMS.

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**University of Washington ..... 436**

Health Science Building, Room RR616  
1959 NE Pacific Street  
Seattle, WA 98195  
United States  
Phone: 206-543-4535  
[depts.washington.edu/cvrtc](http://depts.washington.edu/cvrtc)

As part of the University of Washington's educational mission, we provide echo simulation for self-paced training using genuine patient images, innovative learning accelerators, and validated skill metrics useful for training programs, curriculum assessment, or self-assessment. We feature real time response for natural scanning.

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**Valley Children's Healthcare ..... 36**

9300 Valley Children's Place  
Madera, CA 93636  
United States  
Phone: 559-353-7055  
[valleychildrens.org](http://valleychildrens.org)

Valley Children's Healthcare is a nonprofit network that offers specialized medical and surgical services to treat conditions ranging from common to the most unusual and complex at our 356-bed children's hospital, as well as through partner hospitals, specialty care centers, satellite practices and primary care services.

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**Ventripoint, Inc ..... 144**

100 W Harrison Street  
North Tower, #410  
Seattle, WA 98119  
United States  
Phone: 206-283-0221  
[ventripoint.com](http://ventripoint.com)

Creating highly accurate 3D volumes from standard 2D ultrasound images. Our technology is focused on congenital heart disease and pulmonary hypertension. Our clinical trials have shown that the volumes we create are as accurate as MRI, the current standard of care.

**Vidistar, LLC** ..... 410  
PO Box 8539  
Greenville, SC 29604  
United States  
Phone: 888-518-7541  
[vidistar.com](http://vidistar.com)

VidiStar, LLC offers a comprehensive web-based PACS and patented DICOM reporting solution so clinicians can remotely read and report on cardiovascular procedures in multiple testing modalities over the Internet. VidiStar's products include Cloud and Onsite imaging/reporting and data analytic software options for improved workflow, accreditation, and referring physician satisfaction.



**Ward Family Heart Center -  
Children's Mercy Kansas City** ..... 513  
2401 Gillham Road  
Kansas City, MO 64108  
United States  
Phone: 816-234-3000  
[childrensmercy.org](http://childrensmercy.org)

The Ward Family Heart Center at Children's Mercy Kansas City is transforming care and quality of life for children with congenital and acquired heart disease. Our outcomes regularly outperform the combined averages of the 119 North American children's hospitals contributing to Society of Thoracic Surgeons National Congenital Heart Surgery Database.

**West Coast Ultrasound Institute** ..... 522  
291 S La Cienega  
Beverly Hills, CA 90211  
United States  
Phone: 310-289-5123  
[wcui.edu](http://wcui.edu)

The Pediatric Cardiac Ultrasound and Congenital Heart Disease Program at West Coast Ultrasound Institute allows students to gain a comprehensive knowledge of the echocardiographic evaluation of congenital and acquired heart disease in children. The classroom lectures and laboratory classes utilizing pediatric volunteers, are taught by experienced practitioners.

**Whale Imaging** ..... 411  
200 Reservoir Street, Suite 301  
Needham, MA 02494  
United States  
Phone: 844-862-4868  
[whaleimaging.com](http://whaleimaging.com)

Whale Imaging is a high tech medical imaging device manufacturer with R&D and marketing headquartered in Boston USA and manufacturing based in Beijing's Hi-Tech Enterprise zone. We combine expert R&D and efficient manufacturing practice with a highly skilled and experienced international management and workforce to produce high quality and optimal value for our customers, above average returns for our stakeholders and opportunity for our employees. Our G-Arm multi-planar surgical fluoroscopy systems are USA FDA 510(k) cleared and European CE approved. Next generation G-Arm and diagnostic echo ultrasound products are in development. We are ISO13485/9001 certified and own a number of valuable patents. Our IP provides the ability to create disruptive new technologies and our low cost manufacturing capability allows us to introduce these to a global market at highly competitive pricing.

**Wiley** ..... 243  
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Malden, MA 02148  
United States  
Phone: 781-388-8200  
[wiley.com/go/cardiology](http://wiley.com/go/cardiology)

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**Wolters Kluwer** ..... 412  
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2001 Market Street  
Philadelphia, PA 19103  
United States  
Phone: 215-521-8300  
[wolterskluwer.com](http://wolterskluwer.com)

Wolters Kluwer is the proud publisher of the Journals of the American Heart Association, including Circulation: Cardiovascular Imaging. We offer a full range of specialized books, journals and electronic media.



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## HUMANITARIAN MISSIONS & TRAINING EVENTS

*"One of the situations that we were confronted with was the fact that we were dealing with indigenous populations in a remote area who have minimal access to medical care. These are cases where an activity like ours had a major impact on these patients by having access to really advanced echocardiography."* **Roberto Lang, MD, FASE,** Volunteer, 2015 Argentina Mission

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*"The ASE (meeting) gave me the opportunity to present my research to a wide audience, from residents to echo techs to staff physicians. Their thoughts and questions gave me new insight into my own research, and I think have greatly improved the quality of my project."* **Michelle Carlson, MD,** 2015 Abstract Presenter Travel Grant Recipient

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*"It became very clear to ASE years ago that the reach of our guideline documents/products goes far beyond the US borders. With the translation of our guideline posters, webinars, and apps, ASEF funding allows the content of these documents to reach out to users around the world by being part of their daily lives in their offices, echo lab computers, or handheld devices."* **Federico M. Asch, MD, FASE,** Chair, ASE Guideline Committee



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# About ASE

As the largest global organization for cardiovascular ultrasound imaging, the American Society of Echocardiography is the leader and advocate, setting practice standards and guidelines.

Comprised of nearly 17,000 physicians, sonographers, nurses, and scientists, ASE is a strong voice providing guidance, expertise, and education to its members with a commitment to improving the practice of ultrasound and imaging of the heart and cardiovascular system for better patient outcomes.

## ASE MEMBERSHIP

ASE is an organization that is open to all echo enthusiasts. It serves its members in numerous ways by providing education, advocacy, research, practice guidelines, and a community for their profession. ASE membership includes over \$750 of FREE CME credits a year, in addition to discounts on all ASE educational courses and products. Members also receive a monthly subscription to the *Journal of the American Society of Echocardiography* (JASE), help with legislative coding and reimbursement issues, an image library, and other career resources. ASE membership through December 31, 2016 is included with all nonmember registrations for the ASE 27th Annual Scientific Sessions.



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2100 Gateway Centre Boulevard, Suite 310  
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# Board, Council, and Committee Meetings

## FRIDAY JUNE 10

ASE Board of Directors	3:00 – 5:00 PM	Cirrus Room, Sheraton Seattle
Pediatric and Congenital Heart Disease Council Steering Committee	6:00 – 8:30 PM	Room 307-8

## SATURDAY JUNE 11

ASE Foundation Annual Appeal Committee	7:30 – 9:00 AM	Room 303
Membership Steering Committee	9:00 – 10:00 AM	Room 304
Industry Roundtable Committee	9:30 – 11:30 AM	Room 305
Sonographer Council Steering Committee	10:00 – 11:30 AM	Room 307-8
Nominating Committee	11:00 AM – 12:00 PM	Room 304
International Relations Advisory Committee	1:00 – 2:30 PM	Room 305
WASE Normal Values Study	3:30 – 5:30 PM	Room 310

## SUNDAY JUNE 12

Advocacy Committee	9:45 – 11:15 AM	Room 303
Workflow & Lab Management Task Force	10:00 – 11:00 AM	Room 306
Council on Perioperative Echocardiography Steering Committee	10:15 – 11:45 AM	Room 302
Finance Committee	10:45 AM – 12:00 PM	Room 309
Awards Committee	11:30 AM – 12:30 PM	Room 305
FASE Advisory Committee	2:30 – 3:30 PM	Room 304

Initiative to Standardize Deformation Imaging	3:00 – 5:00 PM	Room 307-8
JASE Editorial Board	4:00 – 5:15 PM	Room 310

## MONDAY JUNE 13

Research Committee	9:00 – 10:30 AM	Room 307-8
Education Committee	10:00 – 11:30 AM	Room 304
CME Committee	11:45 AM – 1:15 PM	Room 304
Guidelines and Standards Committee	11:45 AM – 1:15 PM	Room 309
Council on Vascular Ultrasound Steering Committee	12:00 – 1:30 PM	Room 302
Governance Task Force	12:00 – 1:00 PM	Room 306
Bylaws and Ethics Committee	1:00 – 2:00 PM	Room 304
Point of Care Task Force	1:00 – 2:00 PM	Room 305
Innovation Competition Task Force	2:00 – 3:00 PM	Room 303

## TUESDAY JUNE 14

Public Relations Task Force	10:00 – 11:00 AM	Room 302
Scientific Sessions Program Committee	11:30 AM – 1:00 PM	Room 303
Pediatric Echocardiography Lab Directors	11:30 AM – 1:00 PM	Room 310

# ASE Education and Research Foundation

The ASE Education and Research Foundation (ASEF) is ASE's charitable arm, helping to assure the viability and visibility of cardiovascular ultrasound. Every dollar raised through the Foundation's Annual Appeal goes directly back out into the field. In 2015 over 3,800 donors gave more than \$250,000 which exceeded the campaign goal by more than \$25,000!

All contributions to the Foundation support the following 2016 initiatives:

- » Area of Greatest Need
- » Demonstrating the Value of Cardiovascular Ultrasound
- » Guideline Translations and Global Dissemination
- » Global Health Initiatives and Humanitarian Events
- » Patient Awareness
- » Research Investigator Support
- » Research Studies
- » Travel Grants and Scholarships

Stop by the ASE Foundation booth, outside the Exhibit & Poster Hall on Level 4, to learn more about the fundraising events being hosted in Seattle, such as the Annual Research Awards Gala and the Scavenger Hunt. Pick up your "I Donated!" sticker, inquire about volunteer opportunities, and learn more about ASEF. ASEF bracelets will also be on sale. Donate today and help us to make a world of difference!



## ASE Foundation

### COMPETE WITH YOUR FEET – CARDIOVASCULAR CHALLENGE

Get moving with ASEF! This year as a cardiovascular health initiative, ASEF will be supporting a "pedometer challenge" during the meeting. Key areas around the convention center will display step targets. Record your steps taken at the Conference each day, and compete to log the most steps. You must visit the ASEF Booth outside the Poster & Exhibit Hall on Level 4 by 12 Noon on Monday, June 13, to log your steps for a chance to win. The first place prize, a \$100 Amazon gift card, will go to the person with the highest step total. Second place will receive a signed copy of *I Had to Survive: How a Plane Crash in the Andes Inspired My Calling to Save Lives* by Dr. Roberto Canessa. The person with the third highest step count will receive an ASEF hat. The winner will also be featured in an upcoming issue of the ASEF eNewsletter! For more information visit the ASEF Booth.

### IMAGES FROM THE HEART PHOTO EXHIBITION

**New this year**, ASEF is presenting a curated photo exhibition of photos taken by ASE members as they traveled the world participating in humanitarian events. ASE members were encouraged to enter photographs that captured faces of people met along the way, landscapes, cultural observations, etc. and to write a few words about the heartfelt memories and what the photos meant to them. Stop by the ASEF Booth outside the Exhibit & Poster Hall on Level 4 to view the photos and stories submitted this year.

# Cumulative Giving Recognition

This list recognizes cumulative giving from individual donors as of December 31, 2015. Cumulative giving levels are updated annually at the conclusion of that year's Annual Appeal.

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This prestigious designation is only conferred upon a peer review of credentials specific to the field of cardiovascular ultrasound. ASE is proud to recognize these members for their dedication and accomplishments. Listed below are new FASE members from the February, April, June, August, October, and December cycles. For a complete list of FASE, please visit [SeeMyHeart.org](http://SeeMyHeart.org). Learn more about applying for FASE at [ASEcho.org](http://ASEcho.org) or stop by ASE's booth #221.

## FASE LOUNGE

SATURDAY, JUNE 11 –  
MONDAY, JUNE 13 ..... 9:00 AM – 4:00 PM  
TUESDAY, JUNE 14 ..... 9:00 AM – 2:00 PM  
ROOM 616

Enjoy the benefits of being a Fellow of the American Society of Echocardiography (FASE) at the exclusive FASE Lounge. Come and pick up your FASE ribbon to show your dedication to your field and your prestigious designation. Lounge amenities will allow you to connect with friends, grab some refreshments, and take a break from the hustle and bustle of the day while being close to all the sessions.

## MEET FACE TO FASE

Are you interested in becoming a Fellow of the American Society of Echocardiography (FASE) but have questions about whether you may qualify? Stop by the ASE Booth #221 in the Exhibit Hall, during the morning and afternoon breaks on Sunday and Monday, to talk one-on-one with a member of the FASE Advisory Group or ASE staff about any questions you have about achieving the FASE designation.

## NEW 2015 FASE RECIPIENTS

Sahar Abdelmoneim, MD, FASE  
Shvetank Agarwal, MD, FASE  
Ildiko Agoston, MD, FASE  
Osama Ahmed Khalil, MD, FASE  
Nausheen Akhter, MD, FASE  
Andrej Alfirevic, MD, FASE  
Sharif Al-Ruzzeh, MD, FASE  
Mary Arthur, MD, FASE  
Craig Asher, MD, FASE  
Peter Bartz, MD, FASE  
Anne Bello, BS-HCA, RDMS, RDCS, FASE  
Himani Bhatt, MD, FASE  
Nicole Bhavé, MD, FASE  
Crystal Blake-Parlin, RDCS, RVT, FASE  
Daniel Blanchard, MD, FASE  
Kunal Bodiwala, MD, FASE  
Daniel Bourque, MS, RCS, FASE  
Chad Bousanti, RCS, FASE  
Hector Busto, RDCS, FASE  
Raylene Choy, RDCS, FASE  
Tomas Francisco Cianciulli, MD, FASE  
Keith Collins, MS, RDCS, FASE  
Mary Craft, RDCS, FASE  
James Crandell, MD, FASE  
Rameshchandra Dabhi, MD, FASE  
Jacob Dal-Bianco, MD, FASE  
Franca Dartnall, FASE  
Brian Davidson, MD, FASE  
Latha Doshetty, RDCS, FASE  
Paulo Dourado, MD, FASE  
Sanjay Dwarakanath, MD, FASE  
Huda Elshershari, MD, FASE  
Maryam Esmaeilzadeh, MD, FASE  
Afsoon Fazlinezhad, MD, FASE  
Daniel Forsha, MD, FASE  
Grace Freire, MD, FASE

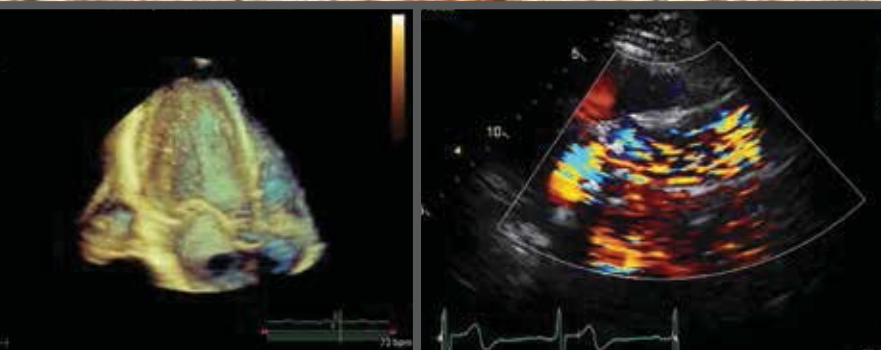
David Friedman, MD, FASE  
Hector Garcia, RDMS, RDCS, RVT, RPVI, FASE  
Anthony Gargiulo, RDCS, FASE  
Nadish Garg, MD, FASE  
Colleen Gorczyca, RDCS, FASE  
Robi Goswami, MD, FASE  
Paul Grayburn, MD, FASE  
Abdul Hakeem, MD, FASE  
Kamran Haleem, MD, FASE  
Padma Hari, MD, FASE  
David M. Harris, MD, FASE  
Luke Havemann, RCCS, FASE  
Danielle Henkel, MD, FASE  
Martin Ibarrola, MD, FASE  
Wael Jaber, MD, FASE  
Renuka Jain, MD, FASE  
Jorge Kizer, MD, FASE  
Kyle Klarich, MD, FASE  
Michael Lanspa, MD, FASE  
Christopher Learn, MD, FASE  
Jonathan Leff, MD, FASE  
Marie Lemus, RDCS, FASE  
Robert Lobato, MD, FASE  
Jose A. Madrazo, MD, FASE  
Feroze Mahmood, MD, FASE  
Nicholas Markin, MD, FASE  
Shane Matheny, DO, FASE  
Daniel McCullough, RDCS, FASE  
Sherry Megalla, MD, FASE  
Fernando Mendoza, MD, FASE  
Jayanta Mukherjee, MD, FASE  
Chirojit Mukherjee, MD, FASE  
Monica Mukherjee, MD, FASE  
Kazuaki Negishi, MD, FASE  
Lauren Nelson, RDMS, RVT, RDCS, FASE  
Troy Olsen, ACS, RDCS (AE, PE), FASE  
Laurie Panesar, MD, FASE  
Fabio Papa, MD, FASE  
Anitha Parthiban, MD, FASE  
Jonathan Patrick, MD, FASE  
Adriana Pavelescu, MD, FASE  
William Perez, MD, MA, FASE  
Shabnam Peyvandi, MD, FASE  
Trishia Phan, BS, RDCS, FASE

Crystal Pontius, RDCS, FASE  
Hoorak Poorzand, MD, FASE  
Omar Prieto, MD, FASE  
Nishath Quader, MD, FASE  
Rene Quiroz, MD, FASE  
Kimberly Radigan, RDCS, FASE  
Hyehyun Reynolds, BS, RDCS, MLS, FASE  
Hedda Richards, RDCS, RCS, FASE  
Bernadette Richards, RDCS, FASE  
Kenneth Ridley, RDCS, FASE  
Juliet Ryan, BS, RDCS, FASE  
Sanjiv Shah, MD, FASE  
Shanthi Sivanandam, MD, FASE  
Gbemiga Sofowora, MD, FASE  
Richard Stacey, MD, FASE  
Joshua Sticka, MD, FASE  
Syahidah Tamin, MD, FASE  
Lloyd Tani, MD, FASE  
Gregory Tatum, MD, FASE  
Christopher Troianos, MD, FASE  
Hemavathi Umamaheswar, MA, RDCS, FASE  
Jonathan Vafai, MD, FASE  
Anju Vohra, RDCS, RT, BA, FASE  
Dee Dee Wang, MD, FASE  
Constance Weismann, MD, FASE  
Megan Yamat, RDCS, RCS, FASE  
Teerapat Yingchoncharoen, MD, FASE  
Jing-Sheng Zheng, MD, PhD, FASE  
Andrew Zurick, MD, FASE

# ECHO ASEAN

# ANNUAL

INFORMATION



October 21-23, 2016  
Conrad Bangkok  
Bangkok, Thailand

### Course Director

Jonathan R. Lindner, MD, FASE  
Oregon Health & Science University, Portland, OR

### Course Co-Directors

James D. Thomas, MD, FASE  
Past President, ASE  
Northwestern Memorial Hospital, Chicago, IL

Kian-Keong Poh, MBBChir, FASE  
National Heart Center Singapore, Singapore

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Jointly Provided by ASE and the ASE Foundation, and held in cooperation with the Thai Society of Echocardiography



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# ASE 2016 FACULTY DISCLOSURE INFORMATION

It is the policy of ASE to ensure balance, independence, objectivity, and scientific rigor in all of its educational activities. All speakers at the 27th Annual Scientific Sessions have agreed to the following:

- » The information presented to the learner will be unbiased, scientifically balanced and based on best available evidence and best practices in medicine.
- » All reasonable clinical alternatives will be presented when making practice recommendations.
- » All scientific research referred to, reported or used in support or justification of patient care recommendations will conform to the generally accepted standards of experimental design, data collection, and analysis.
- » To disclose to the audience when products/services are not labeled for the use under discussion or when the products are still under investigation.
- » To comply with patient confidentiality requirements as outlined in the Health Insurance Portability and Accountability Act (HIPAA) by removing any and all patient identifiers from presentations.
- » Relationships with commercial interests will not influence or bias the presentations and/or planning of the activity.

ASE is committed to resolving all conflicts of interest issues, and its mandate is to retain only those speakers with financial interests that can be reconciled with the goals and educational integrity of the educational program. In accordance with these policies, the ASE implemented mechanisms to the planning and implementation of this CME activity to identify and resolve conflicts of interest for all individuals in a position to control content.

In accordance with this policy and the ACCME, all presenters have indicated whether or not they and/or their spouse/significant other have a relationship with a commercial interest which, in the context of their presentation, may be perceived by the audience as a real or apparent conflict of interest (e.g. ownership of stock, research grant, etc.). The ACCME defines a commercial interest as any proprietary entity producing healthcare goods or services consumed by, or used on patients, with an exception of nonprofit or government organizations and non-healthcare related companies. The ACCME does not consider providers of clinical services directly to patients to be a commercial interest.

## RELATIONSHIP CODES

1. SPEAKER/SPEAKERS' BUREAU
2. CONSULTANT, ADVISOR
3. STOCK OWNERSHIP (NOT INCLUDING STOCKS OWNED IN A MANAGED PORTFOLIO)
4. RESEARCH GRANT SUPPORT (INCLUDING GRANTS IN WHICH YOU ARE LISTED AS PI)
5. EMPLOYMENT AFFILIATION/SPOUSE EMPLOYMENT AFFILIATION
6. ROYALTY, PATENTS
7. CORPORATE RESEARCH COLLABORATION (INCLUDING TRIALS/PRODUCT TESTING)
8. OTHER (EDUCATOR OR HONORARIA)
9. MEMBER DATA SAFETY AND MONITORING BOARD

Abbott, J. ....	None
Abraham, T. ....	None
Adams, D. ....	None
Agler, D. ....	None
Addetia, K. ....	None
Agrawal, V. ....	None
Ahn, J. ....	None
Altman, C. ....	None
Amuthan, V. ....	None
Anderson, B. ....	None
Aragam, J. ....	None
Armstrong, W. ....	None
Asch, F. ....	None
Aurigemma, G. ....	None
Austin, B. ....	None
Ayres, N. ....	None
Backlund, B. ....	None
Badano, L. ....	None
Banchs, J. ....	None
Bansal, M. ....	None
Barbosa, M. ....	None

Barker, P.....	None	Costa, S. ....	None
Bastiansen, P.....	None	Costantino, T.....	None
Becher, H.....	None	Crabbe, D. ....	None
Belcik, J. ....	None	Crispi, F. ....	None
Belohlavek, M.....	None	Dal-Bianco, J. ....	None
Benenstein, R.....	None	Davis, A. ....	None
Beroukhim, R. ....	None	Dean, A. ....	None
Bhatla, P. ....	None	DeMaria, A.....	None
Bhavnani, S. ....	WellSeek (2); iVEDIX (2); .....Proteus Digital (2); Qualcomm (4)	Dent, J. ....	None
Bienvenu, L. ....	None	Desai, M. ....	None
Bierig, M. ....	None	D’hooge, J. ....	GE Healthcare (7); Philips Healthcare (7)
Blauwet, L. ....	None	DiMaria, M.....	Bracco (4, 1)
Bolger, A. ....	None	Dillenbeck, A. ....	None
Border, W. ....	None	Dokainish, H. ....	None
Bremer, M.....	None	Donal, E. ....	None
Brook, M. ....	None	Dorfman, A. ....	None
Bruce, C. ....	Edwards LifeSciences (3)	Douglas, P. ....	None
Burgess, P. ....	None	Doucky, R. ....	None
Burkule, N. ....	None	Dragulescu, A.....	None
Burns, P. ....	None	Eberhardt, R.....	None
Burwash, I. ....	None	Edvardsen, T.....	None
Byrd, B.....	None	Edwards, K. ....	None
Cabalka, A.....	None	Eidem, B.....	None
Canessa, R.....	None	Ensing, G.....	None
Carabello, B.....	None	Estep, J. ....	St. Jude Medical/ Thoratec Corporation (7)
Carron, H.....	None	Falahatpisheh, A. ....	None
Cavalcante, J. ....	None	Feigenbaum, H. ....	None
Chaudhry, F. ....	None	Fields, J. ....	None
Chen, A. ....	None	Fifer, C. ....	None
Chen, J.....	None	Finley, A. ....	None
Cheng, R. ....	None	Fleishman, C. ....	None
Chin, K. ....	None	Forsha, D. ....	Medtronic (4)
Choi, B. ....	None	Fowler, B. ....	Medtronic Vascular (1, 2)
Chow, C. ....	None	Freeman, R.....	None
Claus, P. ....	None	Friedberg, M.....	None
Cleve, J.....	None	Frommelt, M. ....	None
Cnota, J.....	None	Frommelt, P. ....	None
Cobey, F. ....	None	Galderisi, M.....	None
Coffin, C. ....	None	Ganame, J. ....	None
Cohen, M.....	None	Garcia, M.....	None
Coleman, D.....	None	Garg, R.....	None
Collier, P. ....	None	Geva, T.....	None
Collins, K. ....	None	Gibbons, R. ....	None
		Gibbons Schwaegler, B.....	None

Gill, E. ....	None	Kheradvar, A.....	None
Gillam, L. ....	None	Khoo, N. ....	None
Goett, H. ....	None	Kim, S. ....	Philips Ultrasound (2)
Goldberger, Z. ....	None	Kim, Y. ....	None
Goldstein, S.....	None	King, M.....	None
Gorcsan, J. ....	None	Kirkpatrick, J. ....	None
Gorman, B. ....	None	Kisslo, J. ....	None
Govind, S.....	None	Klarich, K. ....	None
Grayburn, P.....	None	Klein, A.....	None
Greenberg, N. ....	None	Knoll, P.....	None
Griffin, B.....	None	Ko, H. ....	None
Grimm, R. ....	None	Kolias, T.....	None
Gutierrez-Fajardo, P.....	None	Kort, S. ....	None
Ha, J. ....	None	Kovalchin, J.....	None
Habib, G.....	None	Kramer, C.....	None
Hahn, R.....	None	Kreeger, J. ....	None
Hamlin, R. ....	None	Krieger, E. ....	None
Han, Y. ....	Gilead (4)	Krishnamoorthy, V.....	None
Harrild, D.....	None	Kronzon, I. ....	None
Hays, A.....	None	Kruse, E. ....	None
Heinle, S. ....	None	Kung, G. ....	None
Hill, J.....	Philips Healthcare (1)	Kusunose, K. ....	None
Hoit, B. ....	Philips Medical (1)	Kutty, S. ....	None
Hoppmann, R. ....	None	Labovitz, A. ....	Bristol Myers Squibb/Pfizer (4)
Hornberger, L.....	None	Lai, W. ....	None
Horton, K.....	None	Lammertin, G. ....	None
Hua, L.....	None	Lang, R.....	None
Hung, J. ....	None	Leipsic, J.....	Edwards Lifesciences (2); Neovasc (2); ..... Circl CVI (2) ; Samsung (2)
Hutchisson, M. ....	None	Leong-Poi, H.....	Lantheus Medical Imaging (1)
Jaber, W.....	None	Lester, S. ....	None
Jankowski, M.....	None	Lewin, M.....	None
Jaquiss, R. ....	None	Li, J. ....	None
Johnson, J. ....	None	Lin, B. ....	Bracco Imaging (8)
Johri, A. ....	None	Lin, G. ....	None
Juraszek, A.....	None	Lindner, J. ....	None
Kachline, S.....	None	Linker, D. ....	None
Kamp, O. ....	None	Little, S. ....	None
Kane, G.....	None	Liu, A. ....	None
Kapadia, S.....	None	Liu, J. ....	None
Kaplan, R.....	None	Lopez, L. ....	None
Katz, W.....	None	Lowenstein, J. ....	None
Keane, M. ....	None	Lu, J. ....	None
Keene, B.....	None	Ludomirsky, A.....	None
Khandheria, B.....	None		

Lui, G. ....	None	Musarra, R. ....	None
Luis-Fuentes, V. ....	None	Nagueh, S. ....	None
Mackensen, G. ....	None	Nakatani, S. ....	None
Magalski, A. ....	None	Nanda, N. ....	None
Maganti, K. ....	None	Naqvi, T. ....	St. Jude (4)
Mahmood, F. ....	None	Narayan, H. ....	None
Main, M. ....	None	Natarajan, S. ....	None
Malkowski, M. ....	None	Nay, S. ....	None
Mangion, J. ....	None	Nguyen Thi Thu, H. ....	None
Mankad, S. ....	None	Nichols, K. ....	None
Marek, J. ....	None	Nicoara, A. ....	None
Marshall, J. ....	None	Odabashian, J. ....	None
Martanto, E. ....	None	Ogunyankin, K. ....	None
Martin, R. ....	None	Oh, J. ....	None
Marwick, T. ....	GE Medical Systems (4)	Oliver, D. ....	None
Marx, G. ....	None	Olson, J. ....	None
Masri, C. ....	None	Orsinelli, D. ....	None
Mayer, S. ....	None	Orsinelli, M. ....	None
McCullough, D. ....	None	Otsuji, Y. ....	None
McGregor, K. ....	None	Otto, C. ....	None
McIlwain, E. ....	None	Owens, D. ....	None
McMahon, C. ....	None	Pai Cole, S. ....	None
McNamara, R. ....	Pfizer, Inc. (8)	Palma, R. ....	None
Meadows, J. ....	None	Pandian, N. ....	None
Meece, R. ....	Tomtec USA, Inc. (7); Philips Healthcare (1)	Park, M. ....	None
Mercer-Rosa, L. ....	None	Parra, D. ....	None
Mertens, L. ....	None	Passeri, J. ....	None
Michelena, H. ....	None	Patel, A. ....	None
Michelfelder, R. ....	None	Patil, P. ....	None
Miller, F. ....	None	Pearlman, A. ....	None
Miller, Sally. ....	None	Pedrizzetti, G. ....	None
Miller, Stephen. ....	None	Pellett, A. ....	None
Mitchell, C. ....	None	Pellikka, P. ....	None
Mohan, J. ....	None	Perpetua, E. ....	None
Mokadam, N. ...	Thoratec (2); HeartWare (2); St. Jude (2)	Peters, F. ....	None
Monaghan, M. ....	Philips (1); Edwards (1)	Peyvandi, S. ....	None
Moneta, G. ....	None	Phelan, D. ....	None
Moon-Grady, A. ....	None	Philip, S. ....	None
Mor-Avi, V. ....	None	Pibarot, P. ....	None
Morhy, S. ....	None	Picard, M. ....	None
Morris, A. ....	None	Pietila, T. ....	None
Morris, S. ....	None	Pislaru, C. ....	None
Mulflur, M. ....	None	Plana, J. ....	None
Mulvagh, S. ....	None	Poh, K. ....	None



Polsani, V.....	None	Schultz, A.....	None
Popescu, B.....	None	Sedehi, D. ....	None
Popovic, Z. ....	None	Sengupta, P. ....	None
Poppas, A. ....	None	Sengupta, S.....	None
Porter, T.....	Lantheus Medical Imaging (4); ..... Astellas Pharma Inc. (4); GE Global Research (4); ..... Bracco (4)	Senior, R. ....	Bracco (1); Philips (1)
Powell, A.....	None	Seward, J.....	None
Prado, A. ....	None	Shafer, J.....	None
Printz, B. ....	None	Shah, A.....	None
Prior, D.....	None	Shah, Sachita.....	None
Puchalski, M. ....	None	Shah, Sangeeta.....	Edwards Lifesciences (1)
Quiñones, M. ....	None	Shah, Sanjiv.....	None
Quiroz, R.....	None	Shamoun, F. ....	None
Rabischoffsky, A. ....	None	Shandas, R.....	None
Radigan, K. ....	None	Shea, E. ....	None
Rakowski, H. ....	None	Shernan, S. ....	Philips (8)
Rasalingam, R.....	None	Shillcutt, S. ....	None
Rehfeldt, K.....	None	Shiota, T.....	None
Reisman, M. ....	Edwards Lifesciences (2,8); ..... Abbott Vascular (2,8)	Shirali, G. ....	Philips Medical (1)
Reynolds, D. ....	None	Shook, D.....	Edwards Lifesciences (8); Sorin Group (8)
Rigolin, V. ....	None	Shu, X. ....	None
Roberson, D. ....	None	Sicari, R.....	None
Roberts, B. ....	None	Siegel, R. ....	None
Roberts, M. ....	None	Silverman, N.....	None
Robison, S.....	None	Silvestry, F. ....	Corvia (4); Edwards Lifesciences (4)
Rodrigues, A. ....	None	Simpson, J.....	None
Rodriguez, L. ....	Edwards (2)	Siu, S. ....	None
Ronderos, R. ....	None	Skubas, N. ....	None
Rose, G. ....	None	Slesnick, T.....	None
Rubenson, D.....	None	Smiseth, O. ....	None
Rudski, L. ....	None	Sniecinski, R. ....	Grifols (2,4); Shire ViroPharma (4)
Ryan, T. ....	None	Sohn, D. ....	None
Rychik, J. ....	None	Solomon, J. ....	GE Healthcare (8)
Sachdeva, R.....	None	Solomon, S. ....	None
Sade, L. ....	None	Song, J. ....	None
Sanchez, L. ....	None	Soriano, B. ....	Precision Image Analysis (2); ..... Ventripoint Diagnostics (7)
Sanchez Osella, O. ....	None	Sorrell, V. ....	None
Sanders, S. ....	None	Spencer, K. ....	None
Sarano, M. ....	Edwards LLC (4)	Srivastava, S. ....	None
Saric, M. ....	Medtronic (1)	Stainback, R.....	None
Sawada, S. ....	None	Statile, C.....	None
Scalia, G. ....	None	Stewart, W. ....	None
Scherrer-Crosbie, M.....	None	Stoddard, M. ....	None
		Strachan, G. ....	None

Sugeng, L. .... Siemens Healthineers (1)  
Swaminathan, M. .... None  
Tacy, T. .... None  
Tajik, J. .... None  
Tamarappoo, B. .... None  
Taub, C. .... None  
Taylor, B. .... Medtronic (2)  
Taylor, C. .... None  
Taylor, M. .... None  
Thomas, J.... Edwards Lifesciences (8); GE (8); Abbott (8)  
Thomas, L. .... None  
Thorsson, T. .... None  
Toptine, J. .... None  
Toyono, M. .... None  
Tsang, T. .... None  
Tsang, W. .... None  
Tucay, E. .... None  
Tunks, R. .... None  
Tworetzky, W. .... None  
Umland, M. .... None  
Unger, E. ....  
..... NuvOx Pharma and Microvascular Therapeutics (3)  
Upadhayaya, D. .... None  
Uretsky, S. .... None  
Vannan, M. .... None  
Venkateshvaran, A. .... None  
Vieira, M. .... None  
Villafane, J. .... None  
Villanueva, F. .... None  
Voigt, J. .... None  
Wang, H. .... None  
Ward, R. .... None  
Wasserman, M. .... None  
Wei, K. .... None  
Weiner, R. .... None  
Weinert, L. .... None  
Weissman, N. .... None  
Welch, T. .... None  
Wells, B. .... None  
Weyman, A. .... None  
Whalley, G. .... None  
Wiegers, S. .... None  
Woo, A. .... None  
Wood, M. .... None

Wright, R. .... None  
Yamat, M. .... None  
Yared, K. .... None  
Yingchoncharoen, T. .... Novartis (1); GE (1); BIC (1)  
Yoerger Sanborn, D. .... None  
Younoszai, A. .... GE (1,4)  
Zhu, T. .... None  
Zimmerman, K. .... None  
Zoghbi, W. .... None

## ABSTRACT PRESENTERS

Castano, A. .... None  
Chowdhury, S. .... None  
Churchill, T. .... None  
Hernandez, L. .... None  
Kourtidou, S. .... None  
Medvedofsky, D. .... None  
Rajagopal, H. .... None  
Sachdeva, S. .... None  
Sherifi, I. .... None  
Torok, R. .... None  
Urbinielli, L. .... None  
Utsunomiya, H. .... None  
Ybarra, A. .... None

# 2016 Program Faculty & Abstract Presenter Index

**Jonathan Abbott**  
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Regional College of  
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PG# 55, 145

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Johns Hopkins University  
Baltimore, MD  
PG# 9, 36, 40, 42, 48,  
59, 70, 95, 96, 97, 98,  
99, 103, 104, 136, 145

**David B. Adams, ACS, RCS, RDCS, FASE**  
Duke University Medical  
Center  
Durham, NC  
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101, 136, 138, 145

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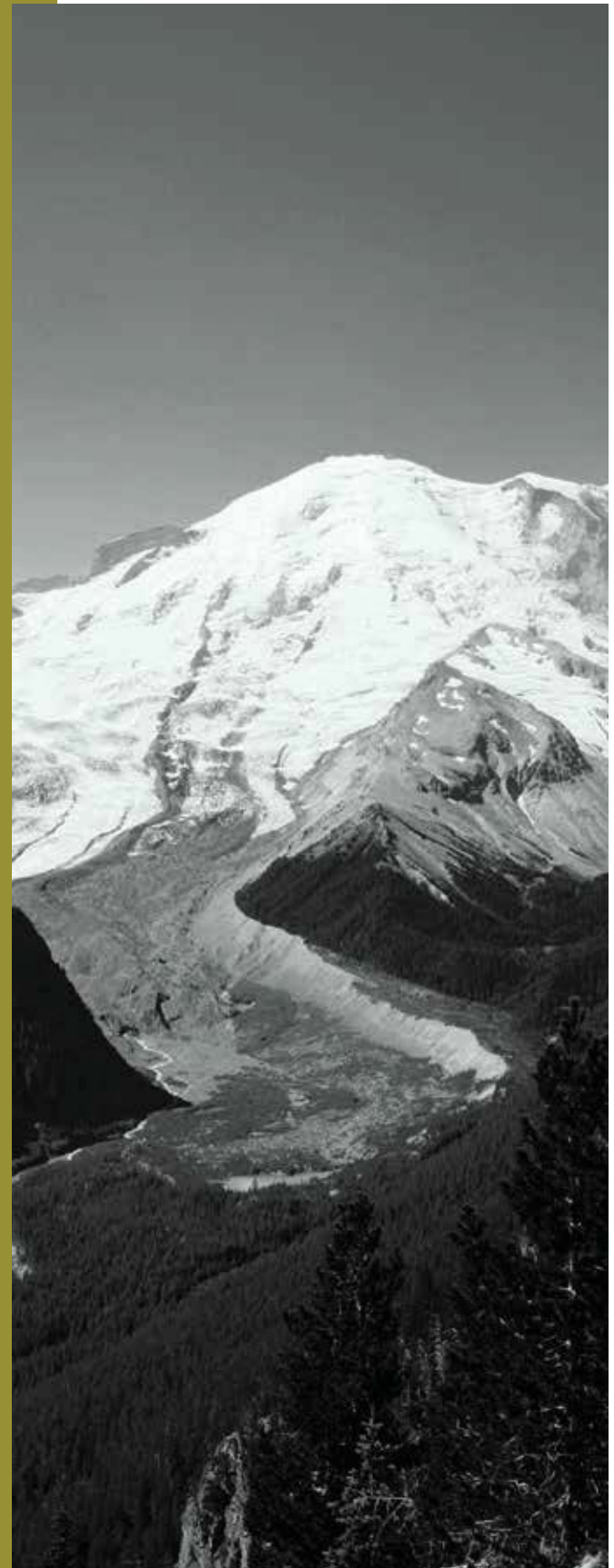
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