American Society of Echocardiography

ASE2021 Virtual Experience

IN CARDIOVASCULAR IMAGING

32nd Annual Scientific Sessions

ASEScientificSessions.org

June 18-21, 2021

#ASE2021

FINAL PROGRAM



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 hypersensitivity to perflutren lipid microsphere or its components, such as polyethylene glycol (PEG).

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 hypersensitivity reactions have been reported during or shortly following perflutren and PEG-containing microsphere administration [*see Adverse Reactions* (*6*)]. The risk for these reactions may be increased among patients with unstable cardiopulmonary conditions and/or with pre-existing PEG hypersensitivity [*see Adverse Reactions* (*6.2*)]. It is not always possible to reliably establish a causal relationship to drug exposure due to the presence of underlying conditions.

Please see brief summary of Prescribing Information, including boxed **WARNING** on subsequent pages.

Please see full Prescribing Information at www.DEFINITYimaging.com

- Consistent image quality from study to study^{1,2}
- Prolonged enhancement at a low dose³
- Flexible dosing for efficient administration¹
- Proven safety profile^{1,4}

Over 14 million Studies Performed⁴

To place an order: 1-800-299-3431 www.DEFINITYimaging.com



Trademarks, registered or otherwise, are the properties of their respective owner(s). ©2021 Lantheus Medical Imaging, Inc. All rights reserved. PM-US-DE-0026 MAY2021

The Ultrasound Enhancing Agent of Choice⁵

DEFINITY[®] improves cardiac diagnosis and changes patient management⁶



Unenhanced

DEFINITY®

Most Used⁵

Most Studied⁷

Most Trusted^⁴

References:

 DEFINITY® [package insert]. N. Billerica, MA: Lantheus Medical Imaging, Inc. 2. Sboros V, et al. *Ultrasound in Med & Biol.* 2001;27:1367–1377. 3. Becher H, Burns PN. Handbook of Contrast Echocardiography: Left Ventricular Function and Myocardial Perfusion. Heidelberg, NY: Springer-Verlag; 2000:2-44. 4. Data on file, Lantheus Medical Imaging, Inc. 5. ©2021 Millennium Research Group, Inc. All rights reserved. Reproduction, distribution, transmission or publication is prohibited. Reprinted with permission.
 Kurt M et al. *J Am Coll Cardiol.* 2009;53(9):802-810. 7. Embase and Medline Search, May 2018. **DEFINITY**[®] Fight (Perflutren Lipid Microsphere)

INJECTABLE SUSPENSION

FOR INTRAVENOUS USE

BRIEF SUMMARY

Please see Full Prescribing Information available at www.DEFINITYimaging.com for additional information.

WARNING: SERIOUS CARDIOPULMONARY REACTIONS

See full prescribing information for complete boxed warning Serious cardiopulmonary reactions, including fatalities, have occurred uncommonly during or following perflutren-containing microsphere administration (5.1). Most serious reactions occur within 30 minutes of administration.

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

INDICATIONS AND USAGE

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.

DOSAGE AND ADMINISTRATION

Important Administration Instructions

- DEFINITY is intended for administration only after activation in the VIALMIX or VIALMIX RFID apparatus. Before injection, this product must be activated and prepared according to the instructions outlined below. The VIALMIX or VIALMIX RFID apparatus should be ordered from Lantheus Medical Imaging, 331 Treble Cove Road, North Billerica, MA, 01862. For customer orders call 1-800-299-3431
- DEFINITY may be injected by either an intravenous (IV) bolus or infusion. Do not administer DEFINITY by intra-arterial injection [see Warnings and Precautions].
- The maximum dose is either two bolus doses or one single intravenous infusion. The safety of bolus and infusion dosing in combination or in sequence, has not been studied.

Dosage

Bolus

The recommended bolus dose for activated DEFINITY is 10 microliters (microL)/kg of the activated product by intravenous bolus injection within 30 to 60 seconds, followed by a 10 mL saline flush. If necessary, a second 10 microliters (microL)/kg dose followed by a second 10 mL saline flush may be administered 30 minutes after the first injection to prolong contrast enhancement.

Infusior

The recommended infusion dose for activated DEFINITY is via an IV infusion of 1.3 mL added to 50 mL of preservative-free saline. The rate of infusion should be initiated at 4 mL/minute, but titrated as necessary to achieve optimal image enhancement, not to exceed 10 mL/minute.

CONTRAINDICATIONS

Do not administer DEFINITY to patients with known or suspected:

 Hypersensitivity to perflutren lipid microsphere or its components, such as polyethylene glycol (PEG) [see Warnings and Precautions].

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 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]*.

Hypersensitivity Reactions

In postmarketing use, serious hypersensitivity reactions were observed during or shortly following perflutren-containing microsphere administration including: Anaphylaxis, with manifestations that may include death, shock, 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.

These reactions have occurred in patients with no prior exposure to perflutren-containing microsphere products. DEFINITY contains PEG. There may be increased risk of serious reactions including death in patients with prior hypersensitivity reaction(s) to PEG [see Adverse Reactions (and Description]. Clinically assess patients for prior hypersensitivity reactions to products containing PEG, such as certain colonoscopy bowel preparations and laxatives. Always have cardiopulmonary resuscitation personnel and equipment readily available prior to DEFINITY administration and monitor all patients for hypersensitivity reactions.

Systemic Embolization

When administering DEFINITY to patients with a cardiac shunt, the microspheres can bypass filtering by the lung and enter the arterial circulation. Assess patients with shunts for embolic phenomena following DEFINITY administration. DEFINITY is only for intravenous administration; do not administer DEFINITY by intra-arterial injection [see Dosage and Administration].

Ventricular Arrhythmia Related to High 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. DEFINITY is not recommended for use at mechanical indices greater than 0.8 [see Dosage and Administration].

ADVERSE REACTIONS

The following serious adverse reactions are described elsewhere in the labeling:

- Serious Cardiopulmonary Reactions [see Warnings and Precautions]
- Hypersensitivity Reactions [see Warnings and Precautions]

Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

A total of 1716 subjects were evaluated in pre-market clinical trials of activated DEFINITY. 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 1). There were 26 serious adverse events and 15 (0.9%) subjects discontinued because of an adverse event.

Serious Adverse Reactions

Table

Among the 1716 study patients, 19 (1.1%) suffered serious cardiopulmonary adverse reactions.

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 among all racial or ethnic groups, and similar for bolus and infusion dosing. Table 1 summarizes the most common adverse reactions.

e 1	New-Onset Adverse Reactions Occurring in
	≥0.5% of All DEFINITY-Treated Subjects

		INITY 1716)
Total Number of Adverse Reactions Total Number of Subjects with an	269	
Adverse Reaction	144	(8.4%)
Body system Preferred term	n	(%)
Application Site Disorders Injection Site Reactions	11 11	(0.6) (0.6)
Body as a Whole Back/renal pain Chest pain	41 20 13	(2.4) (1.2) (0.8)
Central and peripheral nervous system disorder Headache Dizziness	54 40 11	(3.1) (2.3) (0.6)
Gastrointestinal system Nausea	31 17	(1.8) (1.0)
Vascular (extracardiac) disorders Flushing	19 19	(1.1) (1.1)

N=Sample size 1716 subjects who received activated DEFINITY n=Number of subjects reporting at least one Adverse Reaction

Other adverse reactions that occurred in \leq 0.5% of the activated DEFINITY-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 in routine clinical practice, heart rate, respiratory rate, and pulse oximetry were monitored for 30 minutes after DEFINITY 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 is used according to recommendations.

The following adverse reactions have been identified during the post-marketing use of perflutren and PEG-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 hypersensitivity reactions and other serious but non-fatal adverse reactions were uncommonly reported. These reactions typically occurred within 30 minutes of DEFINITY administration. These serious reactions may be increased among patients with pre-existing PEG hypersensitivity and/or 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.

Hypersensitivity

Anaphylaxis, with manifestations that may include death, shock, 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.

Neurologic

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

PATIENT COUNSELING INFORMATION

Advise patients to inform their healthcare provider if they develop any symptoms of hypersensitivity after DEFINITY administration, including rash, wheezing, or shortness of breath.

> Distributed By Lantheus Medical Imaging 331 Treble Cove Road N. Billerica, Massachusetts 01862 USA



For ordering, call toll free: 800-299-3431 All Other Business: 800-362-2668 (For Massachusetts and International, call: 978-667-9531) Patent: http://www.lantheus.com/patents/index.html

515987-0221

TABLE OF CONTENTS

PROGRAM INFORMATION

Welcome Message	6
ASE 2021 Program Committee	7
Scientific Program Tracks and Key	9
CME & Education Information	10
Accreditation & Designation	11
Disclosure Information	12
Play to Win	14

FRIDAY, JUNE 18TH

Schedule at a Glance	16
Friday Schedule	17

SATURDAY, JUNE 19TH

Schedule at a Glance	23
Saturday Schedule	

SUNDAY, JUNE 20TH

Schedule at a Glance	
Sunday Schedule	

MONDAY, JUNE 21st

Schedule at a Glance	34
Monday Schedule	35

ABSTRACTS INFORMATION

Abstract Graders	40
Abstract Categories	41

SPECIAL EVENTS AND NETWORKING OPPORTUNITIES

Friday, June 18	43
Saturday, June 19	43
Sunday, June 20	45
Monday, June 21	49
ASE Foundation Awards and Grants	50

EXHIBITS

Science & Technology Theater Schedule	.54
Virtual Exhibit Hall Overview	.61
Exhibitor Descriptions	.62

GENERAL INFORMATION

About ASE	.69
Officers & Board of Directors 2020-2021	.70
ASE Foundation	.71
ASEF Cumulative Giving Recognition	.72
2020 Annual Appeal Donors	.74
Fellows of the American Society	
of Echocardiography (FASE)	.76

DEAR COLLEAGUES & FRIENDS,

On behalf of the ASE Scientific Sessions Program Committee and the Board of Directors, welcome to the ASE 2021 Scientific Sessions Virtual Experience, "A Revolution in Cardiovascular Imaging." Recent innovations in echocardiography are truly revolutionary—and these innovations are transforming patient care.

While we were all looking forward to an in-person meeting in Boston this year, the pandemic had other plans.

Despite the change in format, your planning committee has assembled a program filled with novel and exciting educational content, including an expanded four-day program, from June 18th – June 21st.

Highlights and new features this year include:

- ★ Dr. Eric Topol, Founder and Director of the Scripps Research Translational Institute (SRTI), Executive Vice President of Scripps Research and Professor of Molecular Medicine, and author of Deep Medicine will deliver the keynote presentation "A Revolution in Cardiovascular Imaging" on Friday, June 18.
- ★ A Clinical Pathologic Conference in association with the New England Journal of Medicine and our colleagues at the Massachusetts General Hospital – an echocardiographic luminary will serve as discussant on a case with echocardiographic impact.
- ★ A special session, including the Gardin Lecture, focusing on aerospace cardiology the intersection of cardiac imaging, physiology, and space exploration.
- ★ Two sessions focusing on COVID-19, including up-to-date information on cardiovascular complications, vaccines, and therapeutics.
- ★ Two Value Summit sessions "An Insider's View of Washington, DC" and an expert view on "Maintaining Quality in the Echo Lab."

- ★ Six sessions developed by ASE's International Alliance Partners – firmly establishing the 2021 Scientific Sessions Virtual Experience as an international collaborative event.
- ★ A special session on "Standardization in Echocardiography: the Next Frontier."
- ★ Four sessions designed by ASE's Specialty Interest Groups (SIGs) focusing on critical care, structural heart interventions, emerging echo enthusiasts, and neonatal hemodynamics.
- ★ The Arthur E. Weyman Young Investigator's Award Competition featuring four top-notch researchers competing for the YIA crown.
- ★ The 22nd Annual Harvey Feigenbaum Lecture featuring the most promising young scientist, Denisa Muraru, MD, PhD, FASE.
- ★ The 32nd Annual Edler Lecture presented by ASE Immediate Past President Madhav Swaminathan, MD, FASE.
- ★ The ASE Foundation Research Awards Gala featuring ASE/ ASEF Award winners, this year in virtual format and open to all attendees.

We look forward to enjoying the ASE 2021 Scientific Sessions Virtual Experience with you!



Michael L. Main, MD, FASE ASE 2021 Program Chair Saint Luke's Mid America Heart Institute Kansas City, MO



Keith Collins, MS, RDCS, FASE ASE 2021 Sonographer Co-Chair Northwestern Medicine Chicago, IL

ASE 2021 PROGRAM COMMITTEE



Michael L. Main, MD, FASE Chair









Circulation & Vascular Council Representative Co-Chair







Madeline Jankowski, RDCS, FASE Member at Large



Jennifer Liu, MD, FASE Member at Large



Sheela Pai Cole, MD, FASE Perioperative Council Representative Chair





Fadi Shamoun, MD, FASE Circulation & Vascular Council Representative Chair

Kelly Thorson, ACS,

Member at Large

Member at Large

RDCS, RCCS, MSRS, FASE

Timothy Woods, MD, FASE











Allison Hays, MD, FASE Member at Large

Council Representative

Keith Collins, MS,

Bonita Anderson, M.APPL.SC, DMU, AMS,

Sonographer Co-Chair

RDCS, FASE

ACS, FASE



Judy Hung, MD, FASE President



Jan Kasal, MD, FASE Point of Care Representative Co-Chair

Praveen Mehrotra, MD, FASE Member at Large







Shubhika Srivastava, MD, FASE

PCHD Council Representative Chair

Kirsten Tolstrup, MD, FASE Member at Large



Theodore Abraham, MD, FASE Past Chair



David Dudzinski, MD, FASE Local Liaison



Kimberly Howard-Quijano, MD, MS Perioperative Council Representative Co-Chair



Renuka Jain, MD, FASE Member at Large



Sharon Mulvagh,

MD, FASE

Abstract Chair



Samreen Raza, MD Point of Care Representative Chair



Matt Umland, ACS, RDCS, FASE Learning Lab











ASE2021 Virtual Experience

THANK YOU ASE 2021 TWITTER CHAMPIONS

Bonita Anderson, M.APPL.SC, DMU, AMS, ACS, FASE @BonitaEcho

Ashish Aneja, MBBS, MD, FASE @ash71us

Kelly Boegel, ACS, RCCS, RCS, FASE @boegel_kelly

Tiffany Chen, MD, FASE @tiffchenMD

Jennifer Co-Vu, MD @DrJenniferCo_Vu

Adam Dorfman, MD, FASE @drdorfkidsheart

Thor Edvardsen, MD, PhD @ThorEdvardsen

Kanwal Farooqi, MD @Kfarooqi

Nadeen Faza, MD, FASE @nadeenfaza

Craig Fleishman, MD, FASE @craigefleishman

Daniel Forsha, MD, MCS, FASE @daniel_forsha

Lindsay Freud, MD, FASE @lindsayfreud

Enrique Gacia-Sayan, MD, FASE @EGarciaSayan

Edward Gill, MD, FASE @edwardagill

Rebecca Hahn, MD, FASE @hahn_rt

Colleen Harrington, MD @md_harrington Allison Hays, MD, FASE @AllisonGHaysMD

Judy Hung, MD, FASE @JudyHungMD

Denise Ignatowski, BS, RDCS, FASE @DeniseIgnatows1

Renuka Jain, MD, FASE @renujain19

Rajesh Janardhanan, MD, MRCP, FASE @rajdoc2005

Ruchika Karnik, MBBS, MD

@rsk86 Esther S. H. Kim, MD, MPH, RPVI, FASE

@EstherSHKim

Allan Klein, MD, FASE @AllanLKleinMD1

Smadar Kort, MD, FASE @SmadarKort

Stephen Little, MD, FASE @SLittleMD

Juan Lopez-Mattei, MD, FASE @onco_cardiology

G. Burkhard Mackensen, MD, PhD, FASE @gb_mackensen

Michael Main, MD, FASE @michaelleemain

Sharon McCartney, MD, FASE @smccartney31

Erin Michos, MD, MHS, FASE @ErinMichos Anita Moon-Grady, MD, FASE @moon_grady

Monica Mukherjee, MD, MPH, FASE @MMukherjeeMD

Sharon Mulvagh, MD, FASE @HeartDocSharon

Denisa Muraru, MD, PhD, FASE @denisamuraru

Akhil Narang, MD, FASE @AkhilNarangMD

Alina Nicoara, MD, FASE @NicoaA002

Sheela Pai Cole, MD, FASE @SheelaPaiCole

Margaret Park, BS, ACS, RDCS, RVT, FASE @kokopark13

Purvi Parwani, MD @purviparwani

Patricia Pellikka, MD, FASE @pattypellikka

Michael Picard, MD, FASE @mikepicardmd

Vera Rigolin, MD, FASE @RigolinVera

Geoffrey Rose, MD, FASE @garosemd

Lucy Safi, DO, FASE @LucySafi

Marielle Scherrer-Crosbie, MD, PhD, FASE @mariellesc1

Fadi Shamoun, MD, FASE @FadiShamounMD Neha Soni-Patel, BS, RDCS, RCCS, FASE @nehasonipatel

Vincent Sorrell, MD, FASE @VLSorrellImages

Shubhika Srivastava, MD, FASE @shubhi_srivas

Raymond Stainback, MD, FASE @ray_stainback

Jordan Strom, MD, MSc, FASE @DocStrom

Lissa Sugeng, MD, MPH, FASE @Sugeng_Lissa

Madhav Swaminathan, MBBS, MD, MMCi, FASE @mswami001

Cynthia Taub, MD, FASE @CynthiaTaub

Ritu Thamman, MD, FASE @iamritu

James Thomas, MD, FASE @JamesDThomasMD1

Melissa Wasserman, RDCS, RCCS, FASE @MelisWasserman

Cathy West, MSc, AMS, FASE @cawest10

Gillian Whalley, PhD, DMU, FASE @GWhalleyPhD

David Wiener, MD, FASE @DavidWienerMD

Malissa Wood, MD, FASE @DrMalissaWood

Thank you to all who join the conversation using #ASE2021, #VirtualEcho, and #EchoAtHome.

ASEScientificSessions.org/TwitterChampions

ADULT CONGENITAL HEART DISEASE (A)

In line with the ASE's Pediatric and Congenital Heart Disease Council, the new ACHD Track addresses the adult-specific congenital cardiovascular diseases. The esteemed faculty cover relevant topics that cover a wide spectrum of ACHD. These highly educational ACHD sessions offer an enriching practical learning opportunity for sonographers, physicians, and ACHD specialists.

CIRCULATION (c)

ASE's Council on Circulation & Vascular Ultrasound has selected relevant topics and valuable presentations that cover a broad-spectrum of arterial and venous diseases. The program here is focused on advancing knowledge and clinical practice in vascular conditions.

EARLY CAREER (EC)

The Early Career session this year was created by ASE's Emerging Echo Enthusiasts (E3) Specialty Interest Group. "Troubleshooting Structural Heart Interventions," on Friday, June 18, is designed for fellows in training and early career physicians and sonographers.

IMAGING ESSENTIALS (E)

This track, designed by lead sonographer practitioners, focuses on basic to advanced echocardiographic concepts and practices for today's cardiac sonographer. These sessions will help to enhance and expand your practical and theoretical knowledge of echocardiography in the assessment of various cardiac diseases. This includes myocardial strain imaging, stress echo, and 3D echo. The Brian Haluska Sonographer Research Award Competition will showcase four of the best sonographer research abstracts presented in 2021.

INNOVATION/ TECHNOLOGY (IT)

The Innovation/Technology Track has been designed to communicate recent advances that improve quality. Topics include clinically-relevant innovations that improve diagnostic accuracy, quantification, and workflow; and breakthrough cutting-edge technologies that will be used for treating the patients of tomorrow.

ISCHEMIA (I)

The Ischemia Track covers a diverse spectrum inclusive of obstructive and non-obstructive coronary diseases and stress echocardiography. Pericardial sessions have also been included. Sessions will address physiology, pathophysiology, diagnosis, and clinical management using echocardiography and multimodality imaging.

MYOCARDIUM/ FUNCTION (M)

The Myocardium/Function Track addresses the core and advanced competencies of pathologies involving the myocardium and provides an update about standards of care. Included in this track are sessions on cardio-oncology and non-ischemic cardiomyopathies.

PEDIATRIC/ Congenital (pc)

The ASE Council on Pediatric and Congenital Heart Disease (PCHD) has designed a program that highlights the "revolution" in echocardiography and advanced imaging modalities from fetus through adult. Established and upcoming experts in our field have come together to present virtual sessions that showcase global initiatives through the COVID-19 pandemic, imaging pearls for complex CHD management, debates on CHD nomenclature, applications of AI, and the persistent challenges in assessment of function.

PERIOPERATIVE (P)

The Perioperative Track, designed by ASE's Council on Perioperative Echocardiography, brings together cardiac anesthesiologists, sonographers, cardiologists, and surgeons with the goal of sharing knowledge in cardiovascular care and perioperative/periprocedural echocardiography.

POINT OF CARE (POC)

The Point of Care Track focuses on this highly valuable modality that is of critical importance as healthcare practitioners utilize handheld devices to further patient care innovations. Sessions focusing on care of critically ill patients are also offered.

SPECIAL SESSIONS (\$)

The 2021 Program Committee has designed the Special Sessions Track to highlight outstanding keynote-like educational content. Join us for the special session with the *New England Journal of Medicine* on Saturday morning. Other special sessions include "COVID-19," "Sound Saves Lives," the "Value Summit," and more.

VALVES & STRUCTURAL HEART DISEASE (V)

Structural heart interventions have "revolutionized" the Valve Track! The track has been redesigned to integrate expertise from all members of the Structural Heart Team (including sonographers, cardiologists, cardiac anesthesiologists). Transcatheter interventions will be reviewed, providing case-based examples for learning. Sessions highlight the success, challenges, and emerging tools of interventional echocardiography.

VETERINARY

ASE has become the professional home to many veterinarians who are interested in cardiovascular ultrasound. The ASE Veterinary Task Force has identified sessions marked with this symbol as topics of particular interest to our veterinary colleagues.

Sessions are identified with the following shapes to assist you in locating education aimed at your level of training.

BASIC/INTERMEDIATE

BASIC

INTERMEDIATE/ADVANCED





BASIC/INTERMEDIATE/ADVANCED

CLAIMING CME CREDIT

To claim your CME credit for the 32nd Annual ASE Scientific Sessions, please visit **ASEScientificSessions.org/CME** for instructions. THE DEADLINE TO CLAIM CREDIT FOR THIS CONFERENCE IS **SEPTEMBER 30, 2021**.

TARGET AUDIENCE

The ASE 2021 Scientific Sessions Virtual Experience 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 poster research presentations offer a broad spectrum of educational opportunities. 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, veterinarians, radiologists, research scientists, primary care practitioners, residents and fellows in training, students, and nurses. Attendees are encouraged to interact with available faculty using the chat feature in the platform, 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

This activity is supported in part by unrestricted, educational grants from Abbott Vascular, Biosense Webster, Bristol Myers Squibb, Edwards Lifesciences, GE Healthcare, Lantheus Medical Imaging, Inc., Medtronic, and Pfizer.

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 guide-lines into talks to demonstrate how and why they should be applied in your daily practice. Upon completion of this course, participants should be better able to:

- Recognize the role of multimodality imaging of cardiomyopathy associated with systemic or metabolic disorders.
- 2. Demonstrate understanding of a comprehensive echo in a variety of settings and patient presentations.
- **3.** Approach the use of point of care ultrasound (POCUS) for unstable patients or those in critical care.
- Understand echocardiographic predictors of outcomes in patients with congenital heart disease and cardiomyopathies.
- **5.** Examine emerging and innovative technologies in the care of children and adults in relation to care involving echocardiography scanning.
- **6.** Incorporate new guideline recommendations into clinical practice.
- **7.** Recognize the recent advancements and future direction of cardiac and vascular ultrasound and the impact these advancements may have on patient care.
- 8. Integrate the latest technical developments into clinical practice.
- **9.** Employ cardiac ultrasound in pre-procedural, intraprocedural, and post-procedural care of patients in the operating room and catheterization laboratory.
- Integrate qualitative and quantitative echocardiography for better understanding of physiology and anatomy of cardiac surgical patients in order to optimize practice performance and patient outcomes.

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 ASE Foundation.

ASE is accredited by the ACCME to provide continuing medical education (CME) for physicians. ASE designates the 32nd Annual ASE Scientific Sessions for a maximum of **58 AMA PRA Category 1 Credits**[™] for attending the entire conference. Attendees should claim only the credit commensurate with the extent of their participation in the activity.

DAILY BREAKDOWN OF CME CREDITS: June 18, 2021 = 16 June 19, 2021 = 11.5

June 19, 2021 = 11.5 June 20, 2021 = 18 June 21, 2021 = 12.5

Successful completion of this CME activity enables the participant to earn up to 58 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 ASE's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Successful completion of this CME activity, which includes participation in the activity, with individual assessments of the participant and feedback to the participant, enables the participant to earn up to 13.5 MOC points in the American Board of Pediatrics' (ABP) Maintenance of Certification (MOC) program. Sessions in the PC Track and identified by this symbol � count toward the 13.5 MOC points. It is ASE's responsibility to submit participant completion information to ACCME for the purpose of granting ABP MOC credit.

Successful completion of this CME activity enables the participant to earn up to 58 MOCA[®] points in The American Board of Anesthesiology[®] (ABA) Maintenance of Certification in Anesthesiology Program[®] or MOCA[®]. It is ASE's responsibility to submit participant completion information to ACCME for the purpose of granting ABA MOCA[®] credit.

ARDMS, CCI, and Sonography Canada recognize ASE's certificates and have agreed to honor the credit hours toward their registry requirements for sonographers.

The ACCME and the European Board of Accreditation in Cardiology (EBAC) recognize each other's accreditation systems as substantially equivalent. To obtain EBAC credit for participation in this activity, submit evidence of participation directly to EBAC (ebac-cme.org).

The European Union of Medical Specialists (UEMS)-European Accreditation Council for Continuing Medical Education (EACCME) has an agreement of mutual recognition of CME credit with the American Medical Association (AMA). European physicians interested in converting *AMA PRA Category 1 Credit[™]* into European CME credit (ECMEC) should contact the UEMS (uems.eu).

The National Board of Echocardiography[™] (NBE) requires 15 hours of echocardiography specific CME for both ReASCE[®] and RePTE[®] recertification. This activity contains 58 *AMA PRA Category 1 Credits[™]* that can be used toward recertification requirements.

All or a portion of this educational activity may meet the CME requirement for Intersocietal Accreditation Commission (IAC) Echocardiography accreditation. Per IAC standards, at least 15 hours of CME relevant to echocardiography are required over a period of three years.

This activity is eligible for Section 1 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 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 relationships 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 12 of this program.



Maintenance of Certification in Anesthesiology Program[®] and MOCA[®] are registered certification marks of the American Board of Anesthesiology[®]. MOCA 2.0[®] is a trademark of the American Board of Anesthesiology[®].

ASE 2021 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 32nd Annual Scientific Sessions have agreed to the following:

- ★ 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 during 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 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 SPEAKER IS 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

THANK YOU!

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

 L. Leonardo Rodriguez, MD, FASE, FACC, for taking the

 leap to become the founding co-Editors-in-Chief of CASE five

 years ago. CASE, ASE's open access online cardiovascular

 case reports journal, made it into the PubMed Central

 index on its first application due to your leadership

 in selecting the excellent cases that appear in the

 bi-monthly publication. Your enthusiasm for

 echocardiography and its vital role for

 excellent patient care shines through

 in every issue. Though your terms

 conclude on July 31, 2021, CASE

 will always

bear your stamp!



"Congratulations to Ms. Zimmerman and Dr. Rodriguez. They have done a remarkable job in building CASE from concept to an established journal in the literature." - Jane Grochowski, Senior Publisher, Health & Medical Sciences, STM Journals, Elsevier





"We are so fortunate to have had Karen and Leonardo as co-Editors-in-Chief to lead the introduction of CASE journal in 2017. Through their leadership, CASE has had phenomenal growth in submissions and publications of high-quality, case-based content for learning." - Quote from Judy Hung, MD, FASE, ASE President

"Founded by the ASE in 2016, CASE has made remarkable progress since the first issue was published in February 2017. Starting from scratch, founding co-Editors-in-Chief Karen Zimmerman and Leonardo Rodriguez have done an amazing job in developing an established and highly regarded open access Journal that uses well-written and clearly illustrated case reports to provide effective teaching points. The next CASE Editor-in-Chief is fortunate to inherit editorial responsibility for CASE from two dedicated, hard-working All-Star Founding Editors. I look forward to seeing this excellent Journal continue to thrive."

- Alan S. Pearlman, MD, FASE, JASE Emeritus EIC, and ASE Past-President



ELSEVIER



ASE 2021 FACULTY DISCLOSURE INFORMATION

/ (uuy, / (OptumCare (2)
Anderson B	
	Ultromics, Caption Health, GE (4)
Bax, J	Edwards Lifesciences, Abbott, Boston Scientific,
Donnott C	Medtronic, Biotronik, GE Healthcare, Bayer (1) Lantheus (8)
Bennell, C	
	Lantheus Medical Imaging (8); Caption Health (2)
	Lantheus (1)
	P UpToDate (6); Medtrace, GE HealthCare, Bioclinica (2)
	Abbott, Inc., Medtronic (8)
	Lantheus, ESP Ultrasound (1)
Delgado, V	Abbott Vascular, Edwards Lifesciences, Medtronic (1)
Douglas, P	
EL-Khuffash, A	General Electric (4)
Emani, S	Chiesi Pharma (2); Cellvie (3)
	Janssen (2)
	Bracco, GE (1)
	Precordior (4)
nann, n	Medtronic, Gore & Associates (2)
Horton K	
	Caption Health (2)
	Philips Japan, ASAHI Kasei, InterReha (7)
	Abbott Structural (2); Edwards Lifescience (1)
	Philips Medical Systems (1), (2); General Electric (2)
	Kiniksa (4); Sobi, Pfizer (2)
	Lantheus (1); Caption Health (2)
	Epsilon Imaging (1)
Kusunose, K	Conon Madical Custome Corneration (4)
	Canon Medical Systems Corporation (4)
	Actelion, Amgen, Applied Therapeutics, AstraZeneca,
	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics,
Lam, C	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape,
Lam, C	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics,
Lam, C	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer,
Lam, C Merck,	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8) Philips (1), (2); Tomtec (1); Caption Health (2)
Lam, C Merck, Lang, R	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8) Philips (1), (2); Tomtec (1); Caption Health (2) Lantheus (4)
Lam, C Merck, Lang, R	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8) Philips (1), (2); Tomtec (1); Caption Health (2) Lantheus (4) Bristol-Myers Squibb / Pfizer, Bayer AG,
Lam, C Merck, Lang, R	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Meece, R	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Meece, R Monaghan, M	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Monaghan, M Nassif, M	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Monaghan, M Nassif, M Nazer, B	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8) Philips (1), (2); Tomtec (1); Caption Health (2) Lantheus (4) Bristol-Myers Squibb / Pfizer, Bayer AG, Boehringer Ingelheim, Fitbit, IBM, NIH, AHA (4); Bristol-Myers Squibb / Pfizer, Blackstone Life Sciences (2)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Moccartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Moccartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Mocartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M Perry, R	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Moccartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M Perry, R Peyvandi, S	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Moccartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M Perry, R Peyvandi, S	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Mocartney, S Monaghan, M Nassif, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M Perry, R Peyvandi, S Phelan, D	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M Perry, R Peyvandi, S Phelan, D Piazza, G	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Monaghan, M Nassif, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M Perry, R Peyvandi, S Phelan, D Piazza, G Porter, T	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S Monaghan, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Park, M Perry, R Peyvandi, S Phelan, D Piazza, G Porter, T Qasim, A	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)
Lam, C Merck, Lang, R Lindner, J Lubitz, S Mayo, P McCartney, S MocCartney, S Monaghan, M Nassif, M Nassif, M Nazer, B Nikravan, S Pai Cole, S Paola, P Park, M Perry, R Peyvandi, S Phelan, D Piazza, G Porter, T Qasim, A Rodríguez-Zanella,	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Novartis, Novo Nordisk, Radcliffe Group Ltd., Roche Diagnostics, Sanofi, Us2.ai, and WebMD Global LLC (2); AstraZeneca, Bayer, Boston Scientific and Roche Diagnostics (4); Us2.ai (8)

Scalia, G	Abbott, Boston Scientific, Philips (1) Proctor (8); Abbott (2) Ultromics (2); Kencor Health (2); RCE Technologies (2)
	Bracco, Lantheus, Philips (1)
Shah S	
	Intrinsic Imaging (2)
	KSCube (6)
Strasburger, J	Dr. Scholl Foundation, Chicago, IL, NIH (4)
	Edwards Lifesciences (4); Philips Healthcare (2); Northwest Imaging Forums (1)
Subramaniam, K	
	Philips Healthcare, Siemens Healthineers, Cannon Medical (1)
	Abbott, GE (4); Caption Health (1),(5)
	Janssen Pharmaceuticals, Myokardia, General Electric (4)
Vainrib, A	
	Lantheus Medical Imaging (1)

NO FINANCIAL RELATIONSHIP

Abraham, T; Abramowitz, S; Addetia, K; Aello- Reyes, L; Akhter, N; Albulushi, A; Almeida, A; Altman, C; Armour, A; Arnaout, R; Arya, B; Auñón-Chancellor, S; Banchs, J; Barac, A; Barker, P; Barnes, B; Bella, J; Beroukhim, R; Bijnens, B; Border, W; Bremer, M; Brook, M; Byrd, B; Cartoski, M; Chelliah, A; Chen, M; Chen, T; Chikwe, J; Chiu, J; Choueiter, N; Chowdhury, D; Churchill, J; Cobey, F; Collins, K; Cosyns, B; Countouris, M; Dal-Bianco, J; Danik, J; Davidson, B; Defaria Yeh, D; Dillenbeck, A; Doan, T; Donal, E; Donofrio, M; Dorfman, A; Dragulescu, A; Drake, D; Dudzinski, D; Edvardsen, T; Edwards, N; Engstrom, H; Ermis, P; Estep, J; Fan, D; Feigenbaum, H; Fendler, T; Fey, B; Finley, A; Fleischman, K; Fleishman, C; Forsha, D; Fostello, S; Foster, E; Frank, L; Freud, L; Friedberg, M; Frommelt, P; Garcia-Savan, E; Gardin, JJ; Ge, B; Giesinger, R; Gill, E; Goffi, A; Goldstein, S; Grigore, A; Guarracino, F; Guile, B; Gupta, D; Habib, G; Harb, S; Harper, R; Harrild, D; Harrington, C; Hathaway, Q; Henkin, S; Howard-Quijano, K; Hung, J; Hur, D; Ibáñez-Arenas, R; Ignatowski, D; Izumi, C; Jain, R; Janardhanan, R; Johri, A; Jone, P; Kasal, J; Kernizan, D; Khoo, N; Killen, S; Kim, E; Kim, J; Kinsara, A; Kirkpatrick, J; Kort, S; Kovalchin, J; Kramer, C; Kreeger, J; Kripfgans, O; Kruse, E; Labovitz, A; Lai, W; Landeck, B; Levine, B; Levy, P; Lipinski, J; Little, S; Liu, L; Lorber, R; Lowenstein, J; Lu, J; Lui, G; Mackensen, G; Mahmood, F; Main, M; Maldonado, Y; Maron, M; Martin, R; Maskatia, S; Mathias, W; Mayer, S; McNamara, P; Mediratta, A; Meineri, M; Mercandetti, J; Mercer-Rosa, L; Mertens, L; Miller, O; Minocha, P; Mitchell, C; Mondino, M; Moon-Grady, A; Morris, S; Mukherjee, M; Mulvagh, S; Muraru, D; Nagueh, S; Nanda, N; Narang, A; Naser, J; Nees, S; Nguyen, H; Nicoara, A; Olson, J; Otto, C; Palma, R; Parra, D; Parthiban, A; Pearlman, A; Pellikka, P; Pham, D; Picard, M; Pinto, F; Pislaru, S; Pizarro, C; Puchalski, M; Puthumana, J; Quartermain, M; Rabinowitz, D; Rahko, P; Rakowski, H; Ramzy, D; Rathod, R; Reddy, C; Renno, M; Rigolin, V; Robinson, J; Roemer, S; Romanowicz, J; Roscoe, A; Rose, G; Rosen, D; Rueda-de-Leon, E; Ryan, T; Sachdeva, R; Sade, L; Sahagún Sánchez, G; Schaaf, J; Schoenhagen, P; Shea, E; Shook, D; Skubas, N; Slesnick, T; Soni-Patel, N; Song, P; Soriano; B; Sorrell, V; Stainback, R; Swaminathan, M; Tacy, T; Tatum, G; Taylor, C; Thangudu, P; Thomas, L; Thompson, W; Thorson, K; Tolstrup, K; Tower-Rader, A; Tsang, T; Umland, M; Vaitenas, I; Vasquez-Ortiz, Z; Vieira, M; Villanueva, F; Vorsanger, M; Wasserman; M; Weissman; N; West, C; Weyman, A; Whalley, G; Wiegers, S; Wiener, D; Williamson, L; Woo, A; Wood, M; Wright, R; Yamat, M; Young, L; Zoghbi, W.

★ PLAY TO WIN!★

COMPETE FOR PRIZES

Play to win badges! There are three badges available. Win them all to become an ASE Super Star! The more you explore, the more you will earn. The top 3 on the Leaderboard at 9:30 PM ET on June 21, 2021, will win exciting prizes.

- ★ FIRST PLACE: \$2,500 credit towards registration, hotel accommodation, and transportation for any ASE 2022 conference!
- ★ SECOND PLACE: \$500 credit towards ASE products, conference, online education, or membership.
- ★ THIRD PLACE: \$250 credit towards ASE products, conference, online education, or membership. All prizes are not redeemable for cash.

HOW DO I WIN?

As you explore the ASE 2021 virtual platform, click metrics will be collected to earn points. Winning is based off points, not badges. Continue exploring once you have earned a badge and your point value will increase.

BADGES YOU CAN EARN



Content Master

The Content Master Badge will be awarded based on the points earned for watching sessions, viewing research posters, clicking banner ads, and viewing speaker profiles. **Earn 400 points to win the badge!**



Exhibits Explorer

The Exhibits Explorer Badge will be awarded based on the points earned for interacting with the exhibitors. Visit the booths, schedule a meeting, download collateral, visit their websites, and drop a business card. **Earn 300 points to win the badge!**



Engagement Expert

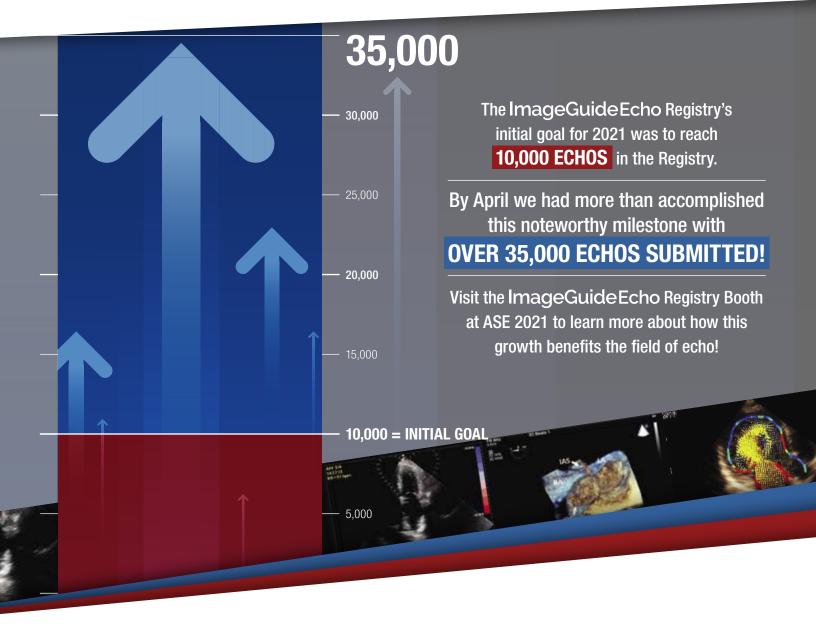
The Engagement Expert Badge will be awarded based on the points earned through participating in session chats, session surveys, or by clicking on social media icons (on homepage or exhibitor social media). **Earn 250 points to win the badge!**



ASE Super Star

The ASE Super Star Badge will be awarded once you have received the Content Master, Exhibits Explorer, and Engagement Expert Badges.

ImageGuideEcho SURPASSES 35,000 ECHOS



We invite you and your colleagues to join our success as we continue to enroll more institutions.



Info@ImageGuideEcho.org · ImageGuideEcho.org

All times are Eastern time.

EXHIBIT HALL OPEN 3:30 - 9:30 PM						
3:30 – 4:30 PM	S WELCOME TO ASE 2021 AND KEYNOTE PRESENTATION THE REVOLUTION OF ECHOCARDIOGRAPHY BY DR. ERIC TOPOL					
4:45 – 5:45 PM	Stress Testing: Not Just for Coronary Artery Disease Anymore	Venous Challenges	Controversies in Valvular Disease	Conquering COVID Together (ASE/EACVI Joint Session**)		
6:00 – 7:00 PM	Imaging in Transplantation: The Road from ECMO to Transplantation	Cardiac Chambers and the Techniques to Image Them	Cardiomyopathies in Latin America and the USA (DIC-SBC Session*)	POCUS in Unstable Patients (Critical Care Echo SIG Session)		
7:15 – 8:15 PM	Prosthetic Valve Dysfunction	How to Utilize Artificial Intelligence for Echocardiography (ASE/JSE Joint Session**)	Evaluating and Differentiating HFpEF: Making it Real	Troubleshooting for Current and Upcoming Structural Heart Interventions (Emerging Echo Enthusiasts E3 SIG Session)		
8:30 – 9:30 PM	The Right Stuff	Myocardial Strain Imaging	Challenges of the Systemic Ventricle	Following the Contrast Guidelines: Break Out the Bubbles!		

* ASE International Alliance Partner Session. (DIC-SBC) Department of Cardiovascular Imaging of the Brazilian Society of Cardiology

** ASE International Alliance Partner Joint Sessions. (EACVI) European Association of Cardiovascular Imaging. (JSE) Japanese Society of Echocardiography

🚏 The ASE Veterinary Task Force has identified these sessions as topics of particular interest to our veterinary colleagues.

The ASE Pediatric and Congenital Heart Disease Council has identified these sessions for earning American Board of Pediatrics MOC points.



3:30 PM - 4:30 PM

Welcome to ASE 2021 & Keynote Presentation

Chairs: J. Hung, M. Main

3:30 PM – 3:33 PM Welcome to ASE 2021 *M. Main*

3:33 PM – 3:35 PM Introduction of Keynote Speaker Dr. Eric Topol *J. Hung*

3:35 PM – 4:05 PM Keynote Presentation: A Revolution in Cardiovascular Imaging *E. Topol*

4:05 PM – 4:30 PM Question & Answer

4:45 PM - 5:45 PM

Stress Testing: Not Just for Coronary Artery Disease Anymore

Chairs: B. Fey, T. Ryan

4:45 PM – 4:47 PM Session Introduction *T. Ryan*

4:47 PM – 4:57 PM

Mitral Valve Prolapse and Mitral Regurgitation: What's Gained By A Stress Test? *A. Davis*

4:57 PM – 5:07 PM

Mitral Stenosis and Bike Stress Testing *H. Engstrom*

5:07 PM – 5:17 PM

Hypertrophic Obstructive Cardiomyopathy Stress: What Gradients are Needed? *H. Nguyen*

5:17 PM – 5:27 PM Low Flow Aortic Stenosis: How To Do the Numbers On the Fly *A. Dillenbeck*

5:27 PM – 5:37 PM Diastolic Stress Test: When Is It Needed? *C. Frye*

5:37 PM – 5:45 PM Question & Answer

4:45 PM - 5:45 PM

• Venous Challenges Chairs: D. Dudzinski, F. Shamoun

4:45 PM – 4:55 PM Pulmonary Embolism Risk Stratification for the Echocardiographer *C. Fanola*

4:55 PM – 5:05 PM

Surgical and Percutaneous Options for Interventional Pulmonary Embolism Treatment *P. Thangudu*

5:05 PM - 5:15 PM

Mechanical Support During Pulmonary Embolism Intervention: The Role of Echo *D. Dudzinski*

5:15 PM - 5:25 PM

Navigating Imaging and Treatment Options for Deep Vein Thrombosis *S. Abramowitz*

5:25 PM - 5:35 PM

Role of Direct Oral Anticoagulants in Venous Thromboembolism *B. Wells*

5:35 PM – 5:45 PM Question & Answer

4:45 PM - 5:45 PM

☆ 🕏 Controversies in Valvular Disease Chairs: J. Oh, D. Wiener

4:45 PM – 4:57 PM Case: Moderate Aortic Stend

Case: Moderate Aortic Stenosis/Moderate Aortic Regurgitation *J. Strom*

4:57 PM – 5:09 PM

Case: Functional Mitral Regurgitation: When Should I Clip? *M. Saric*

5:09 PM – 5:21 PM Case: Small Left Ventricular Outflow Tract, Should I Proceed with TMVR?

O. Khalique

5:21 PM - 5:33 PM

Case: Percutaneous Treatments for Carcinoid Valvular Disease *K. Tolstrup*

5:33 PM – 5:45 PM Question & Answer

4:45 PM - 5:45 PM

🙇 Conquering COVID Together

(ASE/EACVI Joint Session) Chairs: P. Barker, J. Marek



4:45 PM - 4:53 PM Report from First Line Personnel: Sonographers J. Lipinski

4:53 PM - 5:01 PM Lessons Learned: Echo Protocols C. Altman

5:01 PM - 5:09 PM Impact on Echocardiography Education L. Frank

5:09 PM - 5:17 PM Cardiac Involvement: Multimodality Imaging

O. Miller

5:17 PM - 5:25 PM

Quality Improvement and Appropriate Use Criteria in COVID Era R. Sachdeva

5:25 PM - 5:30 PM

Abstract Presentation: Application of Appropriate Use Criteria of Outpatient Transthoracic Echocardiography for Patients Undergoing Telehealth Visits During Early Phase of the COVID-19 Pandemic D. Kernizan

5:30 PM - 5:35 PM

Abstract Presentation: Speckle Tracking Echocardiographic Findings in Children with MIS-C and Acute COVID-19 P. Minocha

5:35 PM - 5:45 PM **Question & Answer**

6:00 PM - 7:00 PM 📀 🐟 Imaging in Transplantation: The Road from ECMO to Transplantation

Chairs: Y. Maldonado, M. Taylor

6:00 PM - 6:15 PM Heart Transplantation S. McCartney

6:15 PM - 6:30 PM Veno-Venous ECMO: Who, When, Contradictions S. Pai Cole

6:30 PM - 6:45 PM Lung Transplantation K. Subramaniam

6:45 PM - 7:00 PM **Question & Answer**

6:00 PM - 7:00 PM

Cardiac Chambers and the Techniques to Image Them

Chairs: M. Picard, W. Tsang

6:00 PM - 6:10 PM

The Left Ventricle R. Lang

6:10 PM - 6:20 PM

The Right Ventricle D. Hur

6:20 PM - 6:30 PM

The Atria L. Thomas

6:30 PM - 6:40 PM

M Mode Crasher R. Martin

6:40 PM - 6:50 PM

The Pericardium A. Klein

6:50 PM - 7:00 PM

Question & Answer

6:00 PM - 7:00 PM

🛕 🛠 Cardiomyopathies in Latin America and USA

(ASE International Alliance Partner Session. (DIC-SBC) Department of Cardiovascular Imaging of the Brazilian Society of Cardiology) Chairs: A. Almeida, A. Pearlman

6:00 PM - 6:12 PM Chagas Heart Disease

M. Vieira

6:12 PM - 6:24 PM

Hypertrophic Cardiomyopathies M. Maron

6:24 PM - 6:36 PM

Genetic Cardiomyopathies J. Barros Pena

6:36 PM - 6:48 PM Right Ventricular Dysplasia V. Rigolin

6:48 PM - 7:00 PM **Question & Answer**

6:00 PM - 7:00 PM POCUS in Unstable Patients

(ASE Critical Care SIG Session) Chairs: J. Kasal, N. Panebianco

6:00 PM – 6:05 PM Session Introduction *J. Kasal*

6:05 PM – 6:15 PM Volume Assessment in Shock *B. Arya*

6:15 PM – 6:25 PM Hypoxemia and POCUS: Including Lung and Diastology *S. Nikravan*

6:25 PM – 6:35 PM Multimodal POCUS in COVID-19 *A. Goffi*

6:35 PM – 6:45 PM Mechanical Circulatory Support and POCUS *S. Pai Cole*

6:45 PM – 7:00 PM Question & Answer

7:15 PM - 8:15 PM

Prosthetic Valve Dysfunction Chairs: E. Gill, N. Nanda

7:15 PM – 7:27 PM How to Assess High Prosthetic Gradients *W. Zoghbi*

7:27 PM – 7:39 PM Thrombus vs. Pannus *S. Walling*

7:39 PM – 7:51 PM Should All Prosthetic Valves Be Biologic? *S. Pislaru*

7:51 PM – 8:03 PM Valve in Valve for Prosthetic Valve Dysfunction *G. Mackensen*

8:03 PM – 8:15 PM Question & Answer

7:15 PM - 8:15 PM

• How to Utilize Artificial Intelligence

for Echocardiography (ASE/JSE Joint Session) Chairs: T. Abraham, C. Izumi

7:15 PM – 7:27 PM Assessment of Left Ventricular Systolic Function *K. Kusunose*

7:27 PM – 7:39 PM Assessment of Left Ventricular Diastolic Function *N. Kagiyama*

7:39 PM – 7:51 PM E21 Research – DeepEcho: Echocardiogram Image Normalization Using Deep Learning for Detection and Prognostication of Heart Failure *P. Pellikka*

7:51 PM – 8:03 PM

Solving Old Questions with New Solutions: Artificial Intelligence Now and Where It Needs To Go *G. Tison*

8:03 PM – 8:15 PM Question & Answer

7:15 PM - 8:15 PM

Evaluating and Differentiating HFpEF: Making it Real Chains A Baddadinishan N Walanama

Chairs: A. Radhakrishnan, N. Weissman

7:15 PM – 7:23 PM Case Presentation *T. Fendler*

7:23 PM – 7:33 PM The Importance of HFpEF and the Silver Tsunami *C. Lam*

7:33 PM – 7:43 PM Definitions of Diastology: Present and Future (Strain) *S. Nagueh*

7:43 PM – 7:53 PM Diastolic Stress Testing *R. Ibáñez-Arenas*

7:53 PM – 8:03 PM Phenotyping HFpEF *S. Shah*

8:03 PM – 8:15 PM What Is Helpful to Report? Clinical Practice *Panel*

7:15 PM - 8:15 PM

Troubleshooting for Current and Upcoming Structural Heart Interventions

(ASE Emerging Echo Enthusiasts E3 SIG Session) Chairs: R. Hahn, R. Thamman

7:15 PM – 7:27 PM Tricuspid Valve Interventions *L. Safi*

7:27 PM – 7:39 PM Paravalvular Leak Closure Procedures *E. Garcia-Sayan*

7:39 PM – 7:51 PM Mitral Valve Intervention Misadventures *S. Harb*

7:51 PM – 8:03 PM Left Atrial Appendage Closure *T. Chen*

8:03 PM – 8:15 PM Question & Answer

8:30 PM - 9:30 PM

P The Right Stuff Chairs: M. Hollon, S. Pai Cole

8:30 PM – 8:40 PM Are TTE and TEE Equivalent for the Right Side in the Perioperative Space? *J. Puthumana*

8:40 PM – 8:50 PM Role for 3D TEE in Right Ventricle Imaging *A. Nicoara*

8:50 PM – 9:00 PM Right Ventricular Strain *K. Howard-Quijano*

9:00 PM – 9:10 PM Pulmonary Hypertension and Echo *F. Haddad*

9:10 PM – 9:20 PM Tricuspid Valve Imaging *D. Muraru*

9:20 PM – 9:30 PM Question & Answer

8:30 PM – 9:30 PM A Wyocardial Strain Imaging

Chairs: E. Donal, M. Umland

8:30 PM – 8:32 PM Session Introduction *M. Umland*

8:32 PM – 8:42 PM Strain 101: The Basics *C. Kramer*

8:42 PM – 8:52 PM Illustrative Strain Cases: Amyloid, Hypertrophic Cardiomyopathy, Chemotherapy *K. Billick*

8:52 PM – 9:02 PM Cases: Trouble-Shooting Strain Errors *I. Vaitenas*

9:02 PM – 9:12 PM Myocardial Work Index/Efficiency *N. Edwards*

9:12 PM – 9:22 PM Reimbursement *K. Horton*

9:22 PM – 9:30 PM Question & Answer

8:30 PM - 9:30 PM

Challenges of the Systemic Ventricle Chairs: C. Fleishman, B. Printz, J. Robinson

8:30 PM – 8:38 PM Assessment of the Mitral Valve *D. Harrild*

8:38 PM – 8:46 PM Surgeons Perspective: Imaging Details That Help Guide Surgical Planning "Borderline Left Ventricle" *S. Emani*

8:46 PM – 8:54 PM Long-Term Challenges in Assessment of a Borderline Left and Single Ventricles *R. Rathod*

8:54 PM – 9:02 PM Imaging Guide to interventions and Planning for Surgery *M. Renno*

9:02 PM - 9:10 PM

Future Directions in Evaluation of SV Valve and Function (Focus on Valves) *N. Khoo*

9:10 PM - 9:18 PM

Lymphatic Imaging: Where Are We Today? *D. Rabinowitz*

9:18 PM – 9:30 PM

Question & Answer

8:30 PM - 9:30 PM

Following the Contrast Guidelines: Break Out the Bubbles!

Chairs: M. Bremer; D. Sanborn

8:30 PM – 8:42 PM

Optimizing Images for Left Ventricular Opacification and Myocardial Contrast Echocardiography: Contrast Settings, Bubble Behavior *M. Park*

8:42 PM - 8:54 PM

Should I or Shouldn't I? Safety, Peds, and Pregnancy *B. Barnes*

8:54 PM - 9:06 PM

Everyday "Novel" Applications: Tumor, Thrombi, and Trouble Post Myocardial Infarction *A. Albulushi*

9:06 PM - 9:18 PM

Beyond Our Borders in Critical Care: Contrast Outside the Echo Lab *C. Bennett*

9:18 PM – 9:30 PM

Question & Answer

2020-2025 ASE STRATEGIC GOALS



CALL FOR **APPLICATIONS**

Editor-in-Chief of JASE

the Journal of the American Society of Echocardiography

JOURNAL OF THE AMERICAN SOCIETY OF ECHOCARDIOGRAPHY Volume 34 • Number 4 • April 2021

IN THIS ISSUE

Echocardiographic Imaging Strategies TEE Evaluation of Celiac Trunk and Superior Mesenteric ry Involvement in Acute Aortic Diss

Fetal Echocardiographic Evaluation of Vascular Rings and Pulmonary Slings

Original Investigations LV Volume and Outcomes in Aortic Regurgitation Effect of High Mechanical Index Impulses on LV Strain Age-Related Development of Cardiac Remodeling and Dysfunction in Young Black and White Adults

Echocardiographic Predictors of Successful ECMO Wean Visualizing the Number of Tricuspid Valve Leaflets with 3D TTF

Farly Bole of Atrial Shunts in Premature Infants with PDA



OnlineJASE.com

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

Editor-in-Chief

for a term beginning January 1, 2023.

The Journal of the American Society of Echocardiography (JASE) - the official journal of the American Society of Echocardiography - brings all cardiovascular ultrasound professionals, including physicians, sonographers, nurses, veterinarians, and scientists, 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, interventional echocardiography, and strain imaging. JASE, established in 1988, has a 2019 Impact Factor of 5.508 and publishes papers from authors around the globe.



Deadline for applications is August 15, 2021. For details go to ASEcho.org/Editor.

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

All times are Eastern time.

蠆

EXHIBIT HALL OPEN 10:00 AM - 6:30 PM					
9:15 – 9:45 AM	TECHNOLOGY SHOWCASE: GE HEALTHCARE				
10:00 - 10:30 AM	STATE OF ASE, 2021 AWARDS PRESENTATION, AND INCOMING PRESIDENT'S MESSAGE				
10:30 AM – 12:00 PM	Clinical Pathologic Conference: Case Records of the Massachusetts General Hospital Special Session with the New England Journal of Medicine Fetal Symposium: In the Midst of a Revolution				
12:10 – 1:10 PM	SCIENCE & TECHNOLOGY THEATER: LANTHEUS MEDICAL IMAGING, INC.				
12:10 – 1:10 PM	VISIT EXHIBIT HALL				
1:15 - 2:15 PM	Image: New Hypertrophic Cardiomyopathy Guidelines: Updated Approach to Diagnosis and Treatment Image: Adult Congenital Heart Disease I: Essentials Using Echocardiography to Guide the Management of Critically Sick Infants (Neonatal Hemodynamics TnECHO SIG Session)		BAD Ventricular Assist Device Problems		
2:30 - 4:00 PM	VISIT EXHIBIT HALL				
2:30 - 3:00 PM	TECHNOLOGY SHOWCASE: PHILIPS HEALTHCARE				
3:00 - 4:00 PM	SCIENCE & TECHNOLOGY THEATER: SIEMENS HEALTHINEERS				
4:10 – 4:15 PM	ASE Cares WELLNESS BREAK				
4:15 – 5:15 PM	COVID-19 Special Session	PC Innovations in Technology and Cardiovascular Imaging	Imaging Saves the Day: Complications During Transcatheter Procedures (Interventional Echocardiography SIG Session)	The Elusive Right Ventricle	
5:30 – 6:30 PM	VISIT EXHIBIT HALL				
5:30 – 6:00 PM	TECHNOLOGY SHOWCASE: PHILIPS HEALTHCARE				
6:00 - 6:30 PM	TECHNOLOGY SHOWCASE: BRISTOL MYERS SQUIBB				
6:30 – 7:30 PM					
7:30 – 8:30 PM					

The ASE Veterinary Task Force has identified these sessions as topics of particular interest to our veterinary colleagues.

* The ASE Pediatric and Congenital Heart Disease Council has identified this session for earning American Board of Pediatrics MOC points.



10:00 AM - 10:30 AM

State of ASE, 2021 Awards Presentations, and Incoming President's Message Chair: J. Hung

10:00 AM – 10:10 AM State of ASE *J. Hung*

10:10 AM – 10:20 AM Board of Directors Induction and 2021 Awards Presentation *J. Hung*

10:20 AM – 10:30 AM Incoming President's Address *R. Stainback*

10:30 AM - 12:00 PM

 Clinical Pathologic Conference: Case Records of the Massachusetts General Hospital Special Session with the New England Journal of Medicine

Chairs: D. Dudzinski, J. Hung Speakers: A. Karaa, S. Lubitz, P. Pellikka, T. Tsang, A. Tower-Rader

10:30 AM - 12:00 PM

Fetal Symposium: In the Midst of a Revolution

Chairs: B. Arya, S. Maskatia, N. Pinto

10:30 AM – 10:40 AM Case: Managing Tachyarrhythmias Challenges *Presenter: E. Rueda-de-Leon Discussant: S. Killen*

10:40 AM – 10:45 AM Question & Answer

10:45 AM – 10:55 AM Case: Managing Bradycardia: Role of Magnetocardiography *Presenter: R. Lorber Discussant: J. Strasburger*

10:55 AM – 11:00 AM Question & Answer

11:00 AM – 11:10 AM Case: Neurodevelopment Prediction and Chronic Maternal Oxygenation Therapy *Presenter: S. Peyvandi Discussant: A. Moon-Grady*

11:10 AM – 11:15 AM Question & Answer **11:15 AM – 11:25 AM** Case: Illustrate Inclusion of Genetic Counseling *Presenter: S. Nees Discussant: T. Tacy*

11:25 AM – 11:30 AM Question & Answer

11:30 AM – 11:40 AM

Case: Utility of Fetal MRI Presenter: A. Chelliah Discussant: M. Donofrio

11:40 AM - 11:45 AM

Question & Answer

11:45 AM – 11:55 AM

Case: Multiple Gestation: Dilemmas of Diagnosis Twin-to-Twin Transfusion Syndrome *Presenter: T. Doan Discussant: S. Morris*

11:55 AM – 12:00 PM Question & Answer

1:15 PM - 2:15 PM

New Hypertrophic Cardiomyopathy Guidelines: Updated Approach to Diagnosis and Treatment

Chairs: A. Hays, D. Phelan

1:15 PM - 1:25 PM

Updates in the Diagnosis and Echo Approach of Hypertrophic Cardiomyopathy (Guideline) *A. Woo*

1:25 PM – 1:35 PM When to Stress Test in Hypertrophic Cardiomyopathy *D. Fan*

1:35 PM – 1:45 PM Novel Treatment Approaches and Echo Follow Up in Hypertrophic Cardiomyopathy

L. Liu

1:45 PM – 1:55 PM

Echo Guidance of Invasive Procedures: Myectomy *F. Cobey*

1:55 PM – 2:05 PM E21 Research – Echocardiographic Optimization of Ultrasound Septal Reduction for Hypertrophic Cardiomyopathy *B. Nazer*

2:05 PM – 2:15 PM Question and Answer

1:15 PM - 2:15 PM

Adult Congenital Heart Disease I: Essential Chairs: E. Shea, M. Wasserman

1:15 PM – 1:17 PM Session Introduction *G. Lui*

1:17 PM – 1:27 PM Is the Heart on the Left or the Right? Dextrocardia, Malposition, and Heterotaxia *J. Kreeger*

1:27 PM - 1:37 PM

Anomalous Coronary Artery in Adults: Technique Dilemmas? *J. Mercandetti*

1:37 PM – 1:47 PM

How to Use Novel Technology in ACHD: 3D Echocardiography, Strain, and More *K. Thorson*

1:47 PM – 1:57 PM

Rapid Fire Cases: Common and Unusual Unrepaired ACHD Cases – Learning Opportunity for Young Scholars *G. Lui*

1:57 PM – 2:07 PM Aortic Coarctation Repair: Overview and Its Complications *R. Beroukhim*

2:07 PM – 2:15 PM Question & Answer

1:15 PM - 2:15 PM

Using Echocardiography to Guide the Management of Critically Sick Infants

(ASE Neonatal Hemodynamics TnECHO SIG Session) Chairs: W. Lai, P. McNamara

1:15 PM – 1:25 PM Eatal Cardiac Eurotion and

Fetal Cardiac Function and Hemodynamics *L. Freud*

1:25 PM – 1:35 PM Transitional Physiology of Premature Birth *A. EL-Khuffash*

1:35 PM – 1:45 PM Patent Ductus Arteriosus Hemodynamics *P. Levy*

1:45 PM – 1:55 PM E21 Research – Bedside Cardiovascular Monitoring of Neonates with Patent Ductus Arteriosus *O. Kripfgans* **1:55 PM – 2:05 PM** Hypoxic Ischemic Encephalopathy in Newborn Infants *R. Giesinger*

2:05 PM – 2:15 PM Question & Answer

1:15 PM - 2:15 PM

BAD Ventricular Assist Device Problems
 Chairs: N. Silverton, M. Taylor

1:15 PM – 1:27 PM The Right Side Fails *J. Cowger*

1:27 PM – 1:39 PM Aortic Regurgitation

A. Finley

1:39 PM – 1:51 PM RAMP Optimization *P. Song*

1:51 PM – 2:03 PM Pump Thrombosis and Ventricular Assist Device Infection *Y. Maldonado*

2:03 PM – 2:15 PM Question & Answer

4:15 PM - 5:15 PM

COVID-19 Special Session *Chairs: B. Byrd, C. Taub*

4:15 PM – 4:25 PM Arterial Complications *M. Vorsanger*

4:25 PM – 4:35 PM

Venous Complications *G. Piazza*

4:35 PM – 4:45 PM Myocardial Complications *V. Sorrell*

4:45 PM – 4:55 PM Update on Vaccines and Therapeutics *M. Nassif*

4:55 PM – 5:05 PM

Echocardiography Predicts Death in Patients with Acute COVID-19 Infection: The World Alliance Societies of Echocardiography (WASE-COVID Study Part 1) *R. Lang*

5:05 PM - 5:15 PM

Echocardiography Predicts Death in Patients with Acute COVID-19 Infection: Value of Artificial Intelligence. The World Alliance Societies of Echocardiography (WASE-COVID Study Part 2) *F. Asch*

4:15 PM - 5:15 PM

Innovations in Technology and Cardiovascular Imaging

Chairs: B. Soriano, S. Srivastava

4:15 PM – 4:23 PM

Artificial Intelligence in Clinical Decision Making: Are We Ready? *B. Bijnens*

4:23 PM – 4:31 PM

Challenges in Work Flow Infrastructure: Building Data Repositories *C. Reddy*

4:31 PM – 4:39 PM Computational Modeling: Personalizing Care *M. Cartoski*

4:39 PM – 4:47 PM

Healthcare Disparities in Congenital Heart Disease: Risk Stratification Using Imaging and Artificial Intelligence *D. Chowdhury*

4:47 PM – 4:55 PM

Are We Any Closer to Understanding Blood Flow Dynamics? Blood Speckle Tracking vs. Vector Flow Mapping *P. Sengupta*

4:55 PM – 5:00 PM

Case: Imaging of Aorta: Flow Characteristics *J. Soslow*

5:00 PM – 5:05 PM Case: POCUS in Congenital Heart Disease *G. Tatum*

5:05 PM – 5:15 PM Panel Discussion

4:15 PM - 5:15 PM

Imaging Saves the Day: Complications During Transcatheter Procedures

(ASE Interventional Echocardiography SIG Session) Chairs: S. Kort, A. Mediratta

4:15 PM - 4:27 PM

Careful Where You Place the Clip: Can You Guess What Went Wrong? *S. Little*

4:27 PM – 4:39 PM

Imaging the Tricuspid Valve: Which Leaflet is Involved? *A. Narang*

4:39 PM – 4:51 PM

Atrial Septal Defect and Patent Foramen Ovale Closure Are Straightforward Structural Procedures: Is TEE Imaging Necessary? *A. Vainrib*

4:51 PM – 5:03 PM

What Went Wrong During This Percutaneous Left Atrial Appendage Closure? *E. Gill*

5:03 PM – 5:15 PM Question & Answer

4:15 PM - 5:15 PM

E The Elusive Right Ventricle Chairs: G. Strachan, L. Sugeng

4:15 PM – 4:17 PM Session Introduction *L. Sugeng*

4:17 PM – 4:27 PM Right Ventricle Chamber Quantification: 2D/3D

N. Edwards **4:27 PM – 4:37 PM** Estimation of Pulmonary Artery Pressure Besides the Pulmonary Artery Systolic Pressure *B. Anderson*

4:37 PM – 4:47 PM Right Ventricular Strain and Function Assessment *R. Perry*

4:47 PM – 4:57 PM Tricuspid Valve Anatomy 2D/3D *M. Yamat*

4:57 PM – 5:07 PM

Cases from the Emergency Department: Pulmonary Embolism, Right Ventricular Dysplasia, Arrhythmogenic Right Ventricular Dysplasia *M. Kraushaar*

5:07 PM – 5:15 PM

Question & Answer

Announcing a Continued Alignment in Quality

ImageGuideEcho A module under the ImageGuideRegistry platform



Join the ImageGuideEcho Registry for a new way to:

- Satisfy an accreditation requirement for QI documentation, specific to QI measure: report completeness and timeliness
- View accreditation specific data within the Registry interface
- Reduce data entry redundancy
- Facilitate ease of accreditation
- Support high quality care for patients
- Receive feedback via the Registry on actionable quality metrics



Join the nation's first echo-specific clinical data registry for quality improvement.







Info@ImageGuideEcho.org · ImageGuideEcho.org

Echo@Intersocietal.org · Intersocietal.org/Echo

All times are Eastern time.



ADULT CONGENITAL H Disease (A)	EART CIRCULATION (C)	EARLY CAREER (EC)	IMAGING ESSENTIALS (I	E) INNOVATION/ TECHNOLOGY ((IT)	ISCHEMIA (I)
MYOCARDIUM/ Function (m)	pediatric/ Congenital (pc)	PERIOPERATIVE (P)	POINT OF CARE (POC)	SPECIAL SESSI	ons (s)	VALVES & STRUCTURAL Heart disease (V)
BASIC	BASIC/INTERMEDIATE	🛦 INTERMEDIATE 🛛 🌰 IN	TERMEDIATE/ADVANCED	ADVANCED	BASIC/INTI	ERMEDIATE/ADVANCED

10:30 AM - 11:00 AM

fraction for the second second

10:30 AM – 10:33 AM Welcome and Introduction to the Edler Lecture *M. Main*

10:33 AM – 10:53 AM

Edler Lecture: Echo, Equity, and Empowerment: A Framework for the Future *M. Swaminathan*

10:53 AM - 11:00 AM

Thank you *M. Main*

11:00 AM - 12:00 PM

S Value Summit: An Insider's View of Happenings in Washington, DC Moderator: M. Picard

11:00 AM – 11:30 AM Views from the Hill, Our ASE Lobbyists *L. Aronson, D. Rosen*

11:30 AM – 12:00 PM Fireside Chat *L. Aronson, M. Picard, D. Rosen*

11:00 AM - 12:00 PM

Imaging in Cardio-Oncology: Making it Real Chairs: J. Liu, M. Scherrer-Crosbie

11:00 AM - 11:10 AM

Cancer Therapy Related Cardiac Dysfunction: The Role of Ejection Fraction/Global Longitudinal Strain in Guiding Therapeutic Intervention *N. Akhter*

11:10 AM - 11:20 AM

Evaluation and Management of Immune Checkpoint Inhibitor Induced Myocarditis: Is Echo Helpful? *J. Kim*

11:20 AM – 11:30 AM Radiation Induced Heart Disease: Why Worry? *D. Gupta*

11:30 AM – 11:40 AM Cardio-Oncology Echo Report: What the Oncologists Need to Know *A. Barac*

11:40 AM - 11:50 AM

Multimodality Imaging in the Assessment of Cardiac Tumors and Masses *J. Banchs*

11:50 AM – 12:00 PM Question & Answer

11:00 AM - 12:00 PM

Adult Congenital Heart Disease II: Challenging Pathology

Chairs: K. Thorson, P. Vihn

11:00 AM – 11:02 AM Session Introduction *K. Thorson*

11:02 AM – 11:12 AM

Tetralogy of Fallot in Adults: Focus on the "Right" *J. Churchill*

11:12 AM – 11:22 AM

Dextro-Transposition of the Great Arteries Post Atrial Switch: How to Handle the Remodeling Ventricles by Echo *C. West*

11:22 AM – 11:32 AM Fontan Procedure Overview

P. Ermis

11:32 AM – 11:42 AM

ACHD in Pregnancy: When to Worry? *D. Defaria Yeh*

11:42 AM – 11:52 AM Double Trouble: Expected & Unexpected Paired Findings *R. Stainback*

11:52 AM – 12:00 PM Question & Answer

11:00 AM - 12:00 PM

Wew Frontiers in Ultrasound: POCUS and Beyond

Chair: S. Raza, H. Rakowski

11:00 AM – 11:05 AM Session Introduction *H. Rakowski*

11:05 AM - 11:15 AM

Point of Care Ultrasound Training for the Clinician *J. Kirkpatrick*

11:15 AM - 11:25 AM

The Different Variations in Ultrasound Delivery: HOCUS, POCUS! *G. Rose*

11:25 AM - 11:35 AM

Certification in Critical Care Ultrasound: What are the Implications? *A. Johri on behalf of A. Labovitz*

11:35 AM - 11:45 AM

Training Paradigms in Point of Care *P. Mayo*

11:45 AM – 12:00 PM Question & Answer

1:30 PM - 2:30 PM

S Value Summit: Maintaining Value in the Echo Lab

Chairs: C. Mitchell, P. Rahko

1:30 PM – 1:40 PM

ImageGuideEcho Registry: Quality and Role in Echo Lab Accreditation *M. Bremer*

1:40 PM – 1:50 PM

The CPT RUC Process and Echocardiography *R. Wright*

1:50 PM – 2:00 PM Trends in Echocardiography *S. Mayer*

2:00 PM – 2:10 PM Balancing Quality and Sustainability in the Echo Lab *D. Skolnick*

2:10 PM – 2:20 PM Promotion of Sonographers in the Echo Lab and ASE Leadership *P. Knoll*

2:20 PM – 2:30 PM Question & Answer

1:30 PM - 3:00 PM

S Arthur E. Weyman Young Investigator's Award Competition and 22nd Annual Feigenbaum Lecture

Chair: S. Mulvagh Judges: B. Cosyns, J. Hung, J. Kirkpatrick, S. Siu, A. Weyman, K. Yamamoto

1:30 PM – 1:35 PM Welcome and Introduction *S. Mulvagh*

1:35 PM - 1:47 PM

YIA-01: Pediatric Normal Values and Z-Score Equations for Left and Right Ventricular Strain by Two-Dimensional Speckle-Tracking Echocardiography Derived from 1000 Healthy Children *J. Romanowicz*

1:47 PM – 1:59 PM

YIA-02: Morphometric Patterning of Acoustic Texture Parameters for Rapid Screening of Cardiac Remodeling Using Point-of-care Ultrasound Imaging *Q. Hathaway*

1:59 PM - 2:11 PM

YIA-03: Association of Hypertensive Disorders of Pregnancy with Coronary Microvascular Function 8-10 Years after Delivery *M. Countouris*

2:11 PM – 2:23 PM

YIA-04: Myocardial Stiffness by Cardiac Elastography in Patients with Hypertrophic Cardiomyopathy: Relation with Myocardial Fibrosis and Clinical Outcomes *J. Naser*

2:23 PM – 2:25 PM

Concluding Remarks *S. Mulvagh*

2:25 PM - 2:28 PM

Introduction to the Feigenbaum Lecturer *J. Hung*

2:28 PM – 2:48 PM

Feigenbaum Lecture: Right Heart, Right Now: The Role of 3D Echocardiography *D. Muraru*

2:48 PM - 2:53 PM

S. Mulvagh

Recognition of Feigenbaum Lecture and Concluding Remarks *H. Feigenbaum*

2:53 PM – 3:00 PM Recognition of Competition Finalists and Winner Announcement

1:30 PM - 2:30 PM

Limaging Guide to Intervention on Atrioventricular Valves

Chairs: J. Kovalchin, M. Puchalski, L. Young

1:30 PM – 1:38 PM Ebstein's Valve and Function *M. Friedberg*

1:38 PM – 1:46 PM A Surgeon's Approach to Ebstein's Anomaly *C. Pizarro*

1:46 PM - 1:54 PM

Common Atrioventricular Canal Assessment: Most Challenging Cases *A. Parthiban*

1:54 PM – 2:02 PM Left Atrioventricular Valve Dysfunction *A. Dorfman*

2:02 PM – 2:10 PM Right Atrioventricular Valve

A. Dragulescu

2:10 PM – 2:18 PM

Left Ventricular Outflow Tract Obstruction in Atrioventricular Septal Defect/Canal *C. Taylor*

2:18 PM – 2:30 PM Panel Discussion

1:30 PM - 2:30 PM

Myocardial Ischemia Debate: Bubbles vs. Rads

Chairs: R. Ronderos, L. Safi

1:30 PM – 1:38 PM

Bubbles vs. Rads! Stress Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET) is Best *Debater: P. Chareonthaitawee*

1:38 PM – 1:46 PM

Bubble vs. Rads! Stress Myocardial Contrast Echocardiography is Best Debater: T. Porter

1:46 PM – 1:56 PM Rebuttal: P. Chareonthaitawee, T. Porter

1:56 PM – 2:04 PM Multimodality Imaging for Chest Pain Diagnosis: Function (Stress Echo) is Best *Debater: J. Bax*

2:04 PM – 2:12 PM Multimodality Imaging for Chest Pain Diagnosis: Anatomy (Cor CTA) is Best *Debater: P. Douglas*

2:12 PM – 2:22 PM Rebuttal: J. Bax, P. Douglas

2:22 PM – 2:30 PM Wrap-up *L. Safi*

4:00 PM - 5:00 PM

🛕 Echo in Women by Women in Echo

Chairs: E. Michos, R. Thamman

4:00 PM – 4:12 PM

Acute Coronary Syndrome in Women: Myocardial Infarction with Nonobstructive Coronary Arteries, Prinzmetal's Angina, Coronary Microvascular Dysfunction *C. Harrington*

4:12 PM - 4:24 PM

Vasculopathies in Women: Fibromuscular Dysplasia and Others *E. Kim*

4:24 PM – 4:36 PM

Stress Testing in Women *K. Fleischmann*

4:36 PM – 4:48 PM

Spontaneous Coronary Artery Dissection: Stress Cardiomyopathy *M. Wood*

4:48 PM – 5:00 PM Question & Answer

4:00 PM - 5:00 PM

S Aerospace Cardiology

Chairs: J. Gardin, S. Mankad

4:00 PM – 4:10 PM

Cardiovascular Impact of Microgravity *B. Levine*

4:10 PM – 4:20 PM

Imaging in Space: Challenges and Opportunities *J. Thomas*

4:20 PM – 4:30 PM Space Environment, Space Radiation, and the Microcirculation

J. Lindner

4:30 PM – 4:50 PM

Gardin Lecture: My Life in Space: Impact of Biologic Science *S. Auñón-Chancellor*

4:50 PM – 5:00 PM Question & Answer

4:00 PM - 5:00 PM

TAVR Still Plenty More to Learn in 2021 Chairs: L. Gillam, D. Kang

4:00 PM – 4:12 PM Kalmanson Lecture: Resolving Discrepancies in Aortic Stenosis *C. Otto*

4:12 PM – 4:24 PM What Is A Successful TAVR on Echo in 2021? *J. Dal-Bianco*

4:24 PM – 4:36 PM Complications of TAVR *G. Scalia*

4:36 PM – 4:48 PM TAVR for Newer Indications (Aortic Regurgitation, Bicuspid, Moderate Aortic Stenosis) *R. Jain*

4:48 PM – 5:00 PM Question & Answer

4:00 PM - 5:00 PM

The Brian Haluska Sonographer Research Award Competition

Chair: S. Mulvagh Judges: B. Anderson, K. Collins, J. Kirkpatrick

4:00 PM – 4:03 PM Welcome and Introduction of Judges *S. Mulvagh*

4:03 PM - 4:13 PM

SIA-01: Short- and Long-Term Impact of Left Bundle Branch Block on Myocardial Work Performance *B. Ge*

4:13 PM - 4:23 PM

SIA-02: Formal Sonographer Feedback Leads to Reduction in Sonographer Technical Errors and Scan Omissions *S. Fostello*

4:23 PM – 4:33 PM

SIA-03: Pump vs. Push: Implementation of Ultrasound Enhancement Agent Administered by Infusion Pump During Dobutamine Stress Echocardiography *M. Bremer*

4:33 PM – 4:43 PM

SIA-04: Comparison of 2-Dimensional Derived Fractional Lung Flow Distribution with Nuclear Lung Perfusion Scintigraphy and Introduction of 3-Dimensional Method *D. Pham* **4:43 PM – 4:45 PM** Introduction of Guest Speaker Dr. Gillian Whalley *S. Mulvagh*

4:45 PM – 4:55 PM My Research Journey: How it Changed My Life *G. Whalley*

4:55 PM – 5:00 PM

Recognition of Competition Finalists and Announcement of Winner *S. Mulvagh*

5:45 PM - 6:45 PM

🙀 Sound Saves Lives

Chair: J. Hung

Pediatric Case: J. Chiu, T. Hampton, J. Neas, M. Vallely Athlete Case: E. Carney, R. Harper, D. Phelan

5:45 PM - 6:45 PM

chailenges on the Right *Chairs: N. Choueiter, B. Landeck*

Chairs: N. Choueiter, B. Landeck

5:45 PM – 5:53 PM Right Ventricle in a Biventricular Circulation: Which Measure Determines Outcomes? *L. Mercer-Rosa*

5:53 PM – 6:01 PM Role of Stress Echo in Assessment of the Right Ventricle *M. Chen*

6:01 PM - 6:09 PM

What is Most Impactful Desynchrony vs. Right Ventricle Size and Function? *D. Forsha*

6:09 PM – 6:17 PM Right Atrium Size and Function *P. Jone*

6:17 PM – 6:25 PM Panel Discussion

6:25 PM – 6:29 PM Debate Introduction *Moderators: G. Ensing, M. Lewin*

6:29 PM – 6:37 PM Debate: Eyeballing is the Best Method Con *P. Frommelt*

6:37 PM – 6:45 PM Debate: Eyeballing is the Best Method Pro *L. Mertens*

5:45 PM - 6:45 PM

Approach to Recurrent Infective Endocarditis

(ASE/EACVI Joint Session) Chairs: V. Sachdev, S. Wiegers



EACVI European Association of Cardiovascular Imaging

5:45 PM - 5:50 PM

A Case of Prosthetic Valve Endocarditis Recidivism *L. Sade*

5:50 PM - 6:00 PM

Echocardiographic Evaluation of Prosthetic Valve Infective Endocarditis *G. Habib*

6:00 PM - 6:10 PM

Added Value of Multimodality Imaging: Cardiac PET, CT, and MRI *P. Schoenhagen*

6:10 PM – 6:15 PM

Overcoming Management Dilemmas: The Endocarditis Team Approach *P. Erba*

6:15 PM - 6:25 PM

The Medical Perspective *B. Cosyns*

6:25 PM – 6:35 PM The Surgical Perspective *J. Chikwe*

6:35 PM – 6:45 PM Question & Answer

5:45 PM - 6:45 PM

Aortic Pathology and Complications: Don't Foul Out!

Chairs: S. Parashar, N. Soni-Patel

5:45 PM – 5:55 PM

Quantification of the Aorta *S. Goldstein*

5:55 PM - 6:05 PM

Imaging Modalities in Aortitis and Large Vessel Vasculitis *S. Henkin*

6:05 PM - 6:15 PM

Genetic Aortopathies and the Role of Genetic Testing *F. Shamoun*

6:15 PM - 6:25 PM

Thoracic Aortic Aneurysm, Abdominal Aortic Aneurysm, and Thoraco-Abdominal Aortic Aneurysm: Expand your Knowledge to the Descending Aorta *A. Aday*

6:25 PM – 6:35 PM

Surveillance and Complications After Aortic Surgery *C. Fanola*

6:35 PM - 6:45 PM

Question & Answer

MONDAY, JUNE 21

All times are Eastern time.

EXHIBIT HALL OPEN 4:00 - 9:30 PM					
4:00 - 5:00 PM	SCIENCE & TECHNOLOGY THEATER: ULTROMICS				
5:15 – 5:45 PM	STANDARDIZATION IN ECHOCARDIOGRAPHY: THE NEXT FRONTIER				
6:00 - 7:00 PM	Cases: 3D Saved My Transthoracic Exam	A Revolution in Mechanical Circulatory Support: Updates from the Front	Tips and Tricks for Success in Interventional Echo	TEE and Mechanical Circulatory Support (ITACTA Session*)	
7:15 – 8:15 PM	Myocardial Perfusion Echocardiography Using Echo Enhancing Agents	Cardiomyopathy Associated with Systemic or Metabolic Disorders	E 🕏 Becoming Expert at Valvular Assessment	Never Ending Conundrums	
8:30 - 9:30 PM	The Great Debates	Microbubbles from Diagnosis to Therapy	New Concepts in Stress Echo Around the World (SONECOM and SISIAC Session*)	Tricuspid Regurgitation: The Next Challenge	

* ASE International Alliance Partner Session.

(ITACTA) Italian Association of Cardiothoracic Anaesthesiologists

(SONECOM) Sociedad Nacional de Ecocardiografía de México A.C. and (SISIAC) Sociedad de Imágenes Cardiovasculares de la Sociedad Interamericana de Cardiología "La imagen de Las Américas"

🛊 The ASE Veterinary Task Force has identified these sessions as topics of particular interest to our veterinary colleagues.



MONDAY, JUNE 21

5:15 PM - 5:45 PM

Standardization in Echocardiography: The Next Frontier

Chair: J. Hung

5:15 PM – 5:21 PM ASE Strategic Initiative *J. Hung*

5:21 PM – 5:27 PM Standardization in Strain *J. Thomas*

5:27 PM – 5:33 PM Standardization in 3D/4D *L. Sugeng*

5:33 PM – 5:39 PM Standardization in Artificial Intelligence *T. Abraham*

5:39 PM – 5:45 PM Where Do We Go From Here *P. Pellikka*

6:00 PM - 7:00 PM

Cases: 3D Saved My Transthoracic Exam
 Chairs: K. Collins, M. Park

6:00 PM – 6:02 PM Session Introduction *K. Collins*

6:02 PM – 6:12 PM Pacer Lead Position: Assessing by 3D *M. Yamat*

6:12 PM – 6:22 PM What Is That Mass? Flail? Interventional Echo? *M. Jankowski*

6:22 PM – 6:32 PM Cleft Mitral Valve: Unmasked by 3D Imaging *B. Guile*

6:32 PM – 6:42 PM Dehisced Prosthesis: Assessed by 3D TTE *R. Meece*

6:42 PM – 6:52 PM Cases: 3D Enhanced the Defect *E. Kruse*

6:52 PM – 7:00 PM Question & Answer

6:00 PM - 7:00 PM

A Revolution in Mechanical Circulatory Support: Updates from the Front

Chair: J. Diaz-Gomez, A. Kinsara

6:00 PM – 6:12 PM Surveillance Echo LVAD Including HeartMate 3[™] *R. Stainback*

6:12 PM – 6:24 PM Problem VADs: When to Call in Multimodality *J. Estep*

6:24 PM – 6:36 PM Echo for Veno-Venous and Veno-Arterial ECMO: Can We Wean? *A. Grigore*

6:36 PM – 6:48 PM

Temporary Left Ventricular/Right Ventricular Mechanical Circulatory Support Including Impella[®] *G. Mackensen*

6:48 PM – 7:00 PM Question & Answer

6:00 PM - 7:00 PM

Tips and Tricks for Success in Interventional Echocardiography Chairs: A. DeMaria, L. Sugeng

6:00 PM – 6:12 PM Tips and Tricks for Success in 3D TEE A. Qasim

6:12 PM – 6:24 PM Use of 3D for Paravalvular Leaks *K. Addetia*

6:24 PM – 6:36 PM Left Atrial Appendage Anatomy and Considerations for Closure *M. Saric*

6:36 PM – 6:48 PM Procedural Imaging in Tricuspid Regurgitation Intervention: TEE, TTE, ICE *M. Vannan*

6:48 PM – 7:00 PM Question & Answer

MONDAY, JUNE 21

6:00 PM - 7:00 PM

TEE and Mechanical Circulatory Support

(ASE International Alliance Partner Session. (ITACTA) Italian Association of Cardiothoracic Anaesthesiologists) Chairs: F. Guarracino, N. Skubas

6:00 PM – 6:12 PM

ECMO, Impella[®], and Paracorporeal LVAD: Echo Guidance to Decision Making *A. Roscoe*

6:12 PM - 6:24 PM

TEE for Ventricular Assist Device Implantation *M. Mondino*

6:24 PM – 6:36 PM

Can We Predict Right Ventricle Failure at the Time of LVAD Implantation? *N. Silverton*

6:36 PM - 6:48 PM

Concomitant Tricuspid Valve Repair/Replacement During LVAD Implantation *M. Meineri*

6:48 PM – 7:00 PM

Question & Answer

7:15 PM - 8:15 PM

Myocardial Perfusion Imaging Using Echo Enhancing Agents

Chair: R. Janardhanan, J. Tsutsui

7:15 PM – 7:27 PM Let's Go from Category III to I *T. Porter*

7:27 PM – 7:39 PM Tips and Tricks *J. Olson*

7:39 PM – 7:51 PM Myocardial Viability Testing *R. Senior*

7:51 PM – 8:03 PM Comparative Modalities *B. Davidson*

8:03 PM – 8:15 PM Question & Answer

7:15 PM - 8:15 PM

Cardiomyopathy Associated with Systemic or Metabolic Disorders

Chairs: G. Aurigemma, T. Edvardsen

7:15 PM – 7:27 PM

Cardiac Sarcoidosis *J. Danik*

7:27 PM – 7:39 PM

Fabry's Disease *T. Tsang*

7:39 PM – 7:51 PM

Cardiac Amyloidosis *M. Mukherjee*

7:51 PM - 8:03 PM

Diabetes Mellitus and Obesity Cardiomyopathy *J. Bella*

8:03 PM – 8:15 PM Question & Answer

7:15 PM - 8:15 PM

E Becoming an Expert at Valvular Assessment *Chairs: C. Mitchell, R. Palma*

7:15 PM – 7:17 PM Session Introduction *C. Mitchell*

7:17 PM – 7:27 PM Keys to Accurate Mitral Regurgitation Quantification by 2D and 3D Echo *A. Armour*

7:27 PM – 7:37 PM Assessing Tricuspid Regurgitation Severity: Torrential Sounds Bad *J. Schaaf*

7:37 PM – 7:47 PM My Aortic Stenosis Numbers Don't Make Sense *S. Roemer*

7:47 PM – 7:57 PM What is Malignant Mitral Valve Prolapse Syndrome *D. Ignatowski*

7:57 PM – 8:07 PM Double Valve Interrogation *D. Bourque*

8:07 PM – 8:15 PM Question & Answer

MONDAY, JUNE 21

7:15 PM - 8:15 PM

🙇 Never Ending Conundrums

Chairs: S. Balasubramanian, D. Parra

7:15 PM – 7:21 PM What Measure of Function Determines Outcomes in Cancer Patients? *W. Border*

7:21 PM – 7:27 PM Vascular Rings: Determining Diagnosis and Intervention *J. Lu*

7:27 PM – 7:33 PM Can Imaging or Stress Risk Stratify Anomalous Aortic Origin of a Coronary Artery? *W. Thompson*

7:33 PM – 7:39 PM Risk Stratification of Pulmonary Hypertension *M. Quartermain*

7:39 PM – 7:45 PM Panel Discussion

7:45 PM – 8:15 PM

Nomenclature Fest Moderators: M. Brook, T. Slesnick

Team A *B. Eidem, L. Lopez*

Team B A. Powell, J. Simpson

Team C N. Ayres, M. Cohen

8:30 PM – 9:30 PM

Chairs: J. Kisslo, S. Shah

8:30 PM – 8:38 PM Structural Heart: Multimodality Imaging is Required *D. Shook*

8:38 PM – 8:46 PM Structural Heart: 3D Echocardiography is Essential in Structural Interventions *M. Monaghan*

8:46 PM – 8:50 PM Rebuttal *M. Monaghan, D. Shook*

8:50 PM - 8:58 PM

Two Surgeons Debate Based on the Echo: I WOULD Repair This Valve! *D. Drake*

8:58 PM - 9:06 PM

Two Surgeons Debate Based on the Echo: I WOULD NOT Repair This Valve! *D. Ramzy*

9:06 PM – 9:10 PM Rebuttal

D. Drake, D. Ramzy

9:10 PM – 9:18 PM We Need Artificial Intelligence in Cardiac Imaging *R. Arnaout*

9:18 PM – 9:26 PM We Need Real Intelligence in Cardiac Imaging *F. Mahmood*

9:26 PM – 9:30 PM Rebuttal *R. Arnaout. F. Mahmood*

8:30 PM - 9:30 PM

Microbubbles from Diagnosis to Therapy
 Chairs: J. Lindner, F. Villanueva

8:30 PM – 8:42 PM Bubbles as Smart Weapons in Cardiovascular Disease *F. Villanueva*

8:42 PM – 8:54 PM Measuring Myocardial Flow: Where Are We Now? *F. Pinto*

8:54 PM – 9:06 PM Bubbles in Acute Coronary Syndromes *W. Mathias*

9:06 PM – 9:18 PM Bubbles in Peripheral Vascular Disease *S. Feinstein*

9:18 PM – 9:30 PM Question & Answer

MONDAY, JUNE 21

8:30 PM - 9:30 PM

New Concepts in Stress Echo Around the World

(ASE International Alliance Partner Session. (SONECOM) Sociedad Nacional de Ecocardiografía de México A.C. and (SISIAC) Sociedad de Imágenes Cardiovasculares de la Sociedad Interamericana de Cardiología "La imagen de Las Américas" Session.) Chairs: S. Spina, N. Zamorano-Velazgez

8:30 PM – 8:42 PM Impact of COVID *L. Aello-Reyes*

8:42 PM – 8:54 PM Vasodilator Stress *Z. Vasquez-Ortiz*

8:54 PM – 9:06 PM Coronary Flow Reserve *H. Rodríguez-Zanella*

9:06 PM – 9:18 PM The ABCDE Approach *J. Lowenstein*

9:18 PM – 9:30 PM Question & Answer

8:30 PM - 9:30 PM

▲ Fricuspid Regurgitation: The Next Challenge

Chairs: K. Addetia, S. Lester

8:30 PM – 8:42 PM Etiologies of Tricuspid Regurgitation *G. Sahagún Sánchez*

8:42 PM – 8:54 PM New Grading Scale for Tricuspid Regurgitation *R. Lang*

8:54 PM – 9:06 PM The Right Ventricle in Tricuspid Regurgitation *V. Delgado*

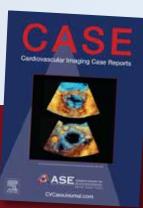
9:06 PM – 9:18 PM

How to Assess Candidacy of Tricuspid Regurgitation for Interventions *R. Hahn*

9:18 PM – 9:30 PM Question & Answer

Congratulations to **Dr. Vincent L. Sorrell**

ASE is pleased to announce that Vincent L. Sorrell, MD, FASE, of the University of Kentucky, Gill Heart and Vascular Institute in Lexington, Kentucky, has been selected to become the Editor-in-Chief of CASE, ASE's cardiovascular imaging, open access case reports journal, on August 1, 2021. A leading figure in the cardiovascular community, Dr. Sorrell is well-positioned to continue the legacy of the founding CASE co-Editors-in-Chief, Karen G. Zimmerman, BS, ACS, RDCS, RVT, FASE, and L. Leonardo Rodriguez, MD, FASE. His outstanding contributions to the cardiovascular ultrasound sphere include patient care, teaching, mentoring, research, publishing, volunteerism, and serving on the ASE Board



of Directors, as well as being an Associate Editor for the *Journal* of the American Society of Echocardiography. Dr. Sorrell is also a social media guru, deftly employing Twitter as an echo teaching tool, engaging cardiovascular ultrasound users globally. The future of CASE is in amazing hands.



Care

★ ORIGINAL SCIENCE ★

The annual showcase of investigators from around the world presenting cutting-edge research on the latest advances in cardiovascular ultrasound and cases illustrating evolutions in patient care is a highlight of ASE's Annual Scientific Sessions.

Please visit ASEcho.org/2021Abstracts to see all the original abstracts and visit the Poster section on the ASE 2021 Virtual Platform to view all the posters and hear the author explaining their research.

ABSTRACT GRADERS

ASE gratefully acknowledges the following individuals for their contribution to the 32nd Annual ASE Scientific Sessions as an Abstract Grader.

ABSTRACT CHAIR Sharon Mulvagh, MD, FASE

ABSTRACT CO-CHAIR James Kirkpatrick, MD, FASE

Theodore Abraham, MD, FASE Karima Addetia, MD, FASE Srinath Adusumalli, MD, MSc Masood Ahmad, MD, FASE Fawaz Alenezi, MD, MSc Sharif Al-Ruzzeh, MD, FASE Carolyn Altman, MD, FASE Bonita Anderson, M.APPL.SC, DMU, AMS, ACS, FASE Ashish Aneja, MBBS, MD, FASE Clara Angulo, MBA, ACS, FASE, RDCS Alicia Armour, BS, MA, RDCS, FASE Federico Asch, MD, FASE Ana Barac, MD, PhD Piers Barker, MD, FASE Luc Beauchesne, MD Harald Becher, MD, PhD Courtney Bennett, DO Michelle Bierig, PhD, ACS, RCS, RDCS, FASE Merri Bremer, EdD, RN, ACS, RDCS, FASE Sujatha Buddhe, MD, FASE Su Min Chang, MD Annabel Chen-Tournoux, MD Chi-Ming Chow, MD, MSc, FASE Keith Collins, MS, RDCS, FASE Mary Corretti, MD, FASE Jacob Dal-Bianco, MD, FASE Melissa Daubert, MD, FASE Brian Davidson, MD, FASE Jeanne DeCara, MD, FASE Francesca Delling, MD, MPH John Dent, MD, MS, MHCM, FASE Amy Dillenbeck, MS, ACS, RDCS, FASE Mary Donofrio, MD, FASE Adam Dorfman, MD, FASE David Dudzinski, MD, FASE Jerry Estep, MD, FASE Christina Fanola, MD, MSC 40 #ASE2021

Nadeen Faza, MD Nowell Fine, MD, MS, FASE Adam Fleddermann, MD Benjamin Freed, MD, FASE Martin Goldman, MD Joy Guthrie, PhD, ACS, RDMS, RDCS, RVT, FASE Yuchi Han, MD, MMSc, FASE David Harrild, MD, PhD, FASE Doug Hayami, MD Brian Hoit, MD, FASE Kim Howard-Quijano, MD, MS, FASE Langi Hua, ACS, APCA, RDCS (AE/PE/FE), FASE Gary Huang, MD, FASE Renuka Jain, MD, FASE Rajesh Janardhanan, MD, MRCP, FASE Madeline Jankowski, BS, RDCS, FASE Davinder Jassal, MD Jonathan Johnson, MD, FASE Amer Johri, MD, FASE Pei-Ni Jone, MD, FASE Jan Kasal, MD, FASE Martin Keane, MD, FASE Kyle Klarich, MD, FASE Allan Klein, MD, FASE Smadar Kort, MD, FASE John Kovalchin, MD, FASE Joe Kreeger, ACS, RCCS, RDCS, FASE Karla Kurrelmeyer, MD, FASE Roberto Lang, MD, FASE Michael Lanspa, MD, FASE Howard Leong-Poi, MD, FASE Bryana Levitan, RDCS, FASE Hsin-Yueh Liang, MD Grace Lin, MD, FASE Stephen Little, MD, FASE Jennifer Liu, MD, FASE Juan Lopez-Mattei, MD, FASE Dai-Yin Lu, MD George Lui, MD, FASE S. Allen Luis, MD, FASE Anthony Magalski, MD, FASE Kameswari Maganti, MD, FASE Michael Main, MD, FASE

Judy Mangion, MD, FASE Sunil Mankad, MD, FASE Thomas Marwick, MBBS, PhD, MPH, MD Susan Mayer, MD, FASE Paul Mayo, MD Robert McNamara, MD, FASE Praveen Mehrotra, MD, FASE Lynette Mendoza, MBA, RDCS, FASE Carol Mitchell, PhD, RDMS, RDCS, RVT, RT(R), ACS, FASE Victor Mor-Avi, PhD, FASE Sherif Nagueh, MD, FASE Gillian Nesbitt, MD, FASE Jae Oh, MD, FASE Ahmad Salehi Omran, MD, FASE Ratnasari Padang, MBBS, PhD, FASE Sheela Pai Cole, MD, FASE Nova Panebianco, MD, MPH Matthew Parker, MD, FASE David Parra, MD Anitha Parthiban, MD, FASE Ayan Patel, MD, FASE Patricia Pellikka, MD, FASE Juan Carlos Plana, MD, FASE Thomas Porter, MD, FASE Gregg Pressman, MD, FASE Beth Printz, MD, PhD, FASE Jyothy Puthumana, MD, FASE Atif Qasim, MD, MSCE, FASE Nishath Quader, MD, FASE Miguel Quiñones, MD, FASE Peter Rahko, MD, FASE Nina Rashedi, MD, FASE Samreen Raza, MD Vera Rigolin, MD, FASE Ana Clara Rodrigues, MD Geoffrey Rose, MD, FASE David Rubenson, MD, FASE Juliet Ryan, BS, RDCS, FASE Vandana Sachdev, MD, FASE Ritu Sachdeva, MD, FASE Anita Sadeghpour, MD, FASE Danita Sanborn, MD, MMSc, FASE Stephen Sawada, MD

Jennifer Schaaf, BS, ACS, RDCS, FASE Marielle Scherrer-Crosbie, MD, PhD, FASE Nelson Schiller, MD, FASE Partho Sengupta, MBBS, MD, DM, FASE Amil Shah, MD, MPH Fadi Shamoun, MD, FASE Elaine Shea, ACS, RCS, RCCS, FASE Takahiro Shiota, MD, FASE Samuel Siu, MD, SM, MBA, FASE Wendy Sowa-Maldarelli, MS, RT, RDCS, FASE Shubhika Srivastava, MD, FASE Raymond Stainback, MD, FASE Robbie Stewart, MD G. Monet Strachan, ACS, RDCS, FASE Cynthia Taub, MD, FASE Ritu Thamman, MD, FASE James Thomas, MD, FASE Kelly Thorson, ACS, RDCS, RCCS, MSRS. FASE Kirsten Tolstrup, MD, FASE Melissa Tracy, MD, FASE Teresa Tsang, MD, FASE Robert Tunks, MD, FASE Matt Umland, ACS, RDCS, FASE Anne Marie Valente, MD, FASE Thomas Van Houten, MPH, ACS, RDCS, FASE Marcelo Vieira, MD, PhD Hector Villarraga, MD, FASE Matthew Vorsanger, MD, RPVI, FASE Bryan Wells, MD, FASE Gillian Whalley, PhD, DMU, FASE David Wiener, MD, FASE Brandon Wiley, MD, FASE Sandra Witt, RDCS, FASE Anna Woo, MD, SM Malissa Wood, MD, FASE Timothy Woods, MD, FASE Bo Xu, MD, FASE Luciana Young, MD, FASE Qiong Zhao, MD, PhD, FASE William Zoghbi, MD, FASE

CLINICAL CASES

- ★ Adult Patient Cases
- ★ Pediatric Patient Cases
- ★ Veterinary Cases
- ★ COVID-19 Patient Cases (New)

ORIGINAL SCIENCE – DISEASE/PATHOLOGY-BASED

- ★ Adult Congenital Heart Disease
- ★ Cardio-Oncology
- ★ COVID-19 Utilization of Echo / Indications for Echo / POCUS (New)
- ★ Diseases of the Aorta / Vascular Diseases
- ★ Echocardiography in SOE / Arrhythmias / Atrial Function
- ★ Echocardiography in Systemic Disease (DM, HTN, Obesity) / Pericardial Disease / Primary Myocardial Disease
- * Adult and Pediatric Heart Failure / Transplant / Other
- ★ Ischemic Heart Disease
- ★ Pediatric Congenital Heart Disease
- ★ Valvular Heart Disease
- ★ Veterinary / Comparative Medicine

ORIGINAL SCIENCE – TECHNIQUE/PROCEDURE-BASED

- ★ 3D Echocardiography
- * Artificial Intelligence / Machine Learning
- ★ Contrast Echocardiography
- ★ Critical Care Ultrasound / Point of Care Ultrasound
- ★ Doppler / Hemodynamics
- Intraprocedural Echocardiography (Operating Room and Interventional Lab) / TEE
- ★ New Technology
- ★ Quality / Practice Improvement
- ★ Ventricular Function / Myocardial Mechanics
- ★ Value of Echocardiography (Quality and Cost) / Outcomes / Comparative Effectiveness

The Top 20 Investigators are the highest ranking early career researchers. The 55 researchers in the President's Circle represent the best abstracts submitted.

<text>

32nd Annual Scientific Sessions June 18-21, 2021

#ASE2021

ASEScientificSessions.org

Congratulations to the ASE 2021 abstract presenters! All Original Science Abstracts are online at: ASEcho.org/2021Abstracts.

ASE2021 Virtual Experience SPECIAL EVENTS * AND NETWORKING * OPPORTUNITIES



FRIDAY, JUNE 18

ASE 2021 KICK OFF AND KEYNOTE PRESENTATION "A Revolution in Cardiovascular Imaging" with Eric Topol, MD

3:30 - 4:30 PM



Dr. Eric Topol, Founder and Director of the Scripps Research Translational Institute (SRTI), Executive Vice President of Scripps Research and Professor of Molecular Medicine, will deliver the keynote presentation "A Revolution in Cardiovascular Imaging." Dr. Topol is one of the leading innovators in medicine today, specializing in the use of

artificial intelligence, "deep" data, and smart technology in the practice of individualized medicine. He has published several textbooks and is the author of two bestsellers on the future of healthcare, *The Creative Destruction of Medicine* and *The Patient Will See You Now*. His newest book is *Deep Medicine: How Artificial Intelligence Can Make Healthcare Human Again*.

INTERNATIONAL ALLIANCE PARTNER AND SPECIALTY INTEREST GROUP SESSIONS

You will notice throughout the program this year, there are sessions presented by ASE International Alliance Partners (IAP) as well as ASE Specialty Interest Groups (SIG). In early 2020, ASE opened a call for presentations for the 2021 Scientific Sessions Planning Committee to consider for inclusion in the program. The Committee was excited to include six IAP and three SIG sessions this year. International Alliance Partners with featured sessions are: Department of Cardiovascular Imaging of the Brazilian Society of Cardiology (DIC-SBC); European Association of Cardiovascular Imaging (EACVI); Italian Association of Cardiothoracic Anaesthesiologists (ITACTA): Japanese Society of Echocardiography (JSE): Sociedad Nacional de Ecocardiografía de México A.C. (SONECOM); and Sociedad de Imágenes Cardiovasculares de la Sociedad Interamericana de Cardiología "La imagen de Las Américas" (SISIAC). The SIG sessions are from Critical Care Echo (CCE), Emerging Echo Enthusiasts (E³). Interventional Echocardiography (IE). and Neonatal Hemodynamics TnECHO SIG (NHTS).

ASE 2021 RESEARCH & CLINICAL CASES

Don't miss the showcase of investigators from around the world presenting cutting-edge research and cases on the latest advances in cardiovascular ultrasound in the Posters section of the ASE 2021 Virtual Experience platform. Be sure to also look for posters from the EACVI 2020 Young Investigator Award – Basic Science winner, Dr. Oscar Demeulenaere (EUR-01), and the JSE 2020 Young Investigator Award winner, Dr. Natsumi Yamaguchi (JSE-01). You can view a PDF poster and hear a recorded presentation from the author on the research. The Top 20 Investigators are the highest ranking early career researchers. The 55 researchers in the President's Circle represent the best abstracts submitted. You can also view all the abstracts that were published in the June JASE by visiting **ASEcho.org/2021Abstracts**.

ASEF CARDIOVASCULAR CHALLENGE ASEF VIRTUAL FOUNDATION BOOTH



ASEF is hosting the very popular activity competition during the ASE 2021 Virtual Scientific Sessions. This year, we are tracking miles exercised. You can walk, bike, run, swim, etc. We encourage you to take breaks is appropriate throughout the day to get maying.

away from your computer throughout the day to get moving!

This year's competition features a lofty goal to cover the distance between our headquarters in Durham, NC, to the Washington State Convention Center in Seattle, WA, where we are hosting the 2022 Scientific Sessions next year. We have 2,828 miles to cover. Plan to get up and get moving! The top three most active people will be announced Monday afternoon, June 21st and be featured in an upcoming ASEF newsletter.

Special thanks to our 2021 Cardiovascular Challenge sponsors, Lantheus Medical Imaging, Inc., Intersocietal Accreditation Commission (IAC), and National Board of Echocardiography, Inc. (NBE).



HOPE AND RESILIENCE IN ACTION PHOTO EXHIBIT ASEF VIRTUAL FOUNDATION BOOTH

This year we are taking a break from our traditional *Images from the Heart* photo exhibit to showcase photos of hope and resilience during the tremendous challenges of 2020. We created an exhibit to shine a light on our members who give their heart and soul to their patients day in and day out. A slideshow of the photos will be available to view at the ASEF booth. These images will not be for sale, however, many photographs from prior years' exhibits are available with a donation to the Foundation.

SATURDAY, JUNE 19

TECHNOLOGY SHOWCASE

9:15 - 9:45 AM

Echocardiography's Important Role in Structural Heart Interventions *Presented by GE Healthcare*

Please visit the GE Healthcare exhibit booth on the virtual platform to view their Technology Showcase.

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

STATE OF ASE, 2021 AWARDS PRESENTATION, AND INCOMING PRESIDENT'S MESSAGE

10:00 - 10:30 AM



LIFETIME ACHIEVEMENT AWARD

ASE Lifetime Achievement Awards recognize individuals who have had a lifetime of outstanding achievements in the field of cardiovascular ultrasound and have served as role models through service, research, and teaching. These individuals have a career in cardiovascular ultrasound spanning at least 25 years and are recognized at local, national, and international levels.



Robert A. Levine, MD, FASE, Massachusetts General Hospital, Boston, MA, has been named the 2021 Physician Lifetime Achievement Award recipient. Dr. Levine has made seminal contributions to the field of echocardiography in valvular heart disease. His publications have made a significant impact on the scientific and

echocardiographic community on using noninvasive echocardiographic tools such as quantitative flow mapping and 3D echocardiography to elucidate mechanisms of mitral valve disease and connect echocardiographic phenotypes of mitral valve prolapse with underlying genetic markers. In recognition of Dr. Levine's accomplishments, he was awarded the American Heart Association Distinguished Scientist Award in 2018 and is a principal investigator in the Leducq Transatlantic Network of Excellence in Mitral Valve Disease.

MERITORIOUS SERVICE AWARD

The Meritorious Service Award recognizes individual members for their substantial and generous efforts to the Society's betterment.



Jose Banchs, MD, FASE, University of

Texas, Houston, TX. Dr. Banchs' efforts for the ASE Foundation have made him one of the most effective and tireless volunteers for the ASE. During his tenure as chair and co-chair of the committee (2015-2019), he led the group to raise over \$1.3M for the Annual Appeal. He was

team leader and co-lead of the highly successful ASEF global outreach events in Vietnam, China, and Cuba. He continues to be proactive about exploring opportunities for corporate matching, grants or new campaign ideas, and is a regular contributor to the Foundation as a monthly sustainer. Dr. Banchs is also highly involved with ASE volunteer opportunities including serving on the Finance Committee, the Diversity & Inclusion Task Force, the International Relations Advisory Group, and as an Abstract Grader to name just a few.

MENTORSHIP AWARD

This award recognizes a senior physician or sonographer who has demonstrated exceptional mentorship within ASE. Unlike other awards, the Mentorship Award specifically acknowledges individuals who helped younger members advance within this Society and thus cultivated ASE's future leaders.



Michael H. Picard, MD, FASE, Massachusetts General Hospital, Boston, MA. Dr. Picard, an ASE Past President (2006-2007) and current Editor-in-Chief of the *Journal of the American Society of Echocardiography*, has a distinguished track record of mentorship and has personally mentored over 80 trainees in his career. He received

the Richard Popp Award for Excellence in Teaching from ASE in 2005. He has also been nominated and a finalist for numerous faculty mentoring and teaching awards at Massachusetts General Hospital including the John T. Potts Faculty Mentoring Award and Brian McGovern Teaching Award. He is a long-serving member of the ASE Advocacy Committee and has mentored and guided many advocacy committee members and staff in this position.

HONORARY FASE



Roxy Senior, MD, DM, FRCP, FESC, FACC, FASE,

Professor of Clinical Cardiology at the National Heart and Lung Institute, Imperial College London and Consultant Cardiologist and Director of Echocardiography at the Royal Brompton Hospital, London, England, is the recipient of the 2021 Honorary FASE Award. This international relations award recognizes a

senior physician or sonographer who has demonstrated exceptional vision in the field and has been a global partner and friend to the ASE.

SCIENCE & TECHNOLOGY THEATER 12:10 - 1:10 PM

Improving Quality and Efficiency in Echocardiography *Presented by Lantheus Medical Imaging, Inc.*

Join us to learn about the important role contrast has in improving quality and efficiency in echocardiography. Gain insight into an efficient implementation process and how to establish a sonographer contrast administration protocol to improve overall quality patient care. A live Q & A session will follow the presentation.

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

TECHNOLOGY SHOWCASE 2:30 - 3:00 PM

Philips Cardiac TrueVue Presented by Philips Healthcare

Please visit the Philips Healthcare exhibit booth on the virtual platform to view their Technology Showcase.

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

SCIENCE & TECHNOLOGY THEATER

3:00 - 4:00 PM

Innovating Echo: Efficiency, Confidence, and Expanded Access to Care Presented by Siemens Healthineers

Siemens Healthineers is excited to support this event and continue to drive innovation in echocardiography. We are inspired by the everchanging landscape of echocardiography and want to share some experiences from thought leaders in cardiac ultrasound. During this time, we will discuss the drive to Innovate Echo and how Siemens Healthineers is responding by increasing Efficiency, Confidence, and Expanded Access to Care.

We are extremely honored to have Dr. Lissa Sugeng, Dr. Chad Kliger, and Dr. Carlos Sanchez provide their insight into these areas.

Efficiency: Automation and AI Powering your Procedure Lissa Sugeng, MD, MPH, FACC, FASE

Confidence: Bringing modalities together to increase confidence Chad Kliger, MD, FACC, FSCAI

Expanded Access to Care: How AcuNav Volume ICE helps Expand Care in Structural Heart Disease patients Carlos Sanchez, MD, FACC, FSCAI

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

WELLNESS BREAK 🍰 4:10 - 4:15 PM cares



ASE encourages attendees to take breaks from their computers during the virtual scientific sessions. Join trainer and founder of "Two Minute Moves," Lizzy Williamson, for a wellness break.

TECHNOLOGY SHOWCASES

5:30 - 6:00 PM

Robust Quantification Powered by AI Presented by Philips Healthcare

Please visit the Philips Healthcare exhibit booth on the virtual platform to view their Technology Showcase.

6:00 - 6:30 PM

Recognizing HCM: A Discussion on Echocardiographic Assessments and Challenges Presented by Bristol Myers Squib

Please visit the Bristol Myers Squib exhibit booth on the virtual platform to view their Technology Showcase.

These sessions are not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

VIRTUAL SOCIAL GATHERING AND COUNCIL NETWORKING SESSIONS 6:30 - 7:30 PM

The Society will start the festivities off with a social gathering and a member talent show! Then, starting at 6:50 the Council Networking sessions will allow you to visit different "rooms" to learn more about the ASE Councils and hear from the Council steering committee representatives. Each of our four Councils, Pediatric and Congenital Heart Disease, Cardiovascular Sonography, Circulation and Vascular Ultrasound, and Perioperative Echo, will have a separate room. You do not need to be a member of the Council to join, in fact this is a great way to learn about their activities. Attendees have an opportunity to ask questions through the chat function too!

ASE FOUNDATION SATURDAY NIGHT LIGHTS 7:30 - 8:30 PM

This family-friendly fundraising event for the ASE Foundation features special live entertainment from magician, Gary Ferrar, and the opportunity to socialize "face-to-face" with your peers via Zoom. Event proceeds support the ASE Foundation's 2021 Annual Appeal to fund global outreach, travel grants, scholarships, and guideline dissemination activities in 2022. Advanced ticket purchase required by June 15th.

SUNDAY, JUNE 20 **TECHNOLOGY SHOWCASE**

9:45 - 10:15 AM

Quality Control in Myocardial Strain Analysis: An Approach Using the Caas Qardia Software Presented by Pie Medical Imaging BV

Please visit the Pie Medical Imaging BV exhibit booth on the virtual platform to view their Technology Showcase.

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

32nd ANNUAL EDLER LECTURE 10:30 - 11:00 AM



Immediate Past President, Madhav Swaminathan, MD. MMCi. FASE. Duke University Medical Center, Durham, NC, will present "Echo, Equity, and Empowerment: A Framework for the Future"

as the 32nd Annual Edler Lecturer. Dr. Swaminathan is Vice Chair for Faculty Development, Duke Anesthesiology, and Professor of Anesthesiology, Duke University

School of Medicine. In his role as the vice chair for faculty development, he is responsible for nurturing the faculty with the vision, mentorship, opportunities, and infrastructure they need to be leaders in changing the face of perioperative medicine. His research interests focus on diastolic dysfunction as well as kidney outcomes after cardiac surgery. Created in 1990, the annual Edler Lecture honors the founder of echocardiography, Dr. Inge Edler.

VALUE SUMMIT: AN INSIDER'S VIEW OF WHAT'S HAPPENING IN WASHINGTON, DC

11:00 AM - 12:00 PM

Views from the Hill from ASE Lobbyists. Moderated by **Michael H. Picard, MD, FASE**.

Dean Rosen, one of Washington's foremost experts on America's complex healthcare system.

Lauren Aronson, a health policy expert with an insider's understanding of how to navigate the political landscape to get things done in Washington.

SCIENCE & TECHNOLOGY THEATER

12:15 - 1:15 PM

What's New with Transcatheter Mitral Valve Repair (or TEER*) and What's Coming in the Future *Presented by Abbott*

Learn more about new guideline recommendations and techniques to identify MR and MitraClip[™] suitable patients through TTE and TEE.

- ★ Session 1: New ACC/AHA Guideline Recommendations for TMVr/TEER – Dr. Jyothy Puthumana
- ★ Session 2: Accurate MR assessment to find MitraClip Suitable Patients – Dr. Jyothy Puthumana
- ★ Session 3: What Imaging Views are Important for a Successful Procedure - Dr. Robert Burke
- ★ Session 4: REPAIR MR** trial: Evaluating New Treatment Options for Moderate Risk Patients – Dr. Patrick McCarthy

*Transcatheter Edge to Edge Repair

**CAUTION: MitraClip (for REPAIR-MR indications) is an investigational device. Limited by Federal (U.S.) law to investigational use only

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

WELLNESS BREAK 1:20 – 1:25 PM ASE

ASE encourages attendees to take breaks from their computers during the virtual scientific sessions. Join trainer and founder of "Two Minute Moves," Lizzy Williamson, for a wellness break.

VALUE SUMMIT: MAINTAINING VALUE IN THE ECHO LAB

1:30 - 2:30 PM

- ★ ImageGuideEcho Registry: Quality and Role in Echo Lab Accreditation, Merri Bremer, EdD, RN, ACS, RDCS, FASE
- ★ The CPT RUC Process and Echocardiography, **Richard** Wright, MD
- ★ Trends in Echocardiography, Susan Mayer, MD, FASE
- ★ Balancing Quality and Sustainability in the Echo Lab, David Skolnick, MD
- ★ Promotion of Sonographers in the Echo Lab and ASE Leadership, Peg Knoll, RDCS, RCS, FASE

ARTHUR E. WEYMAN YOUNG INVESTIGATOR'S AWARD COMPETITION AND 22nd ANNUAL FEIGENBAUM LECTURE 1:30 - 3:00 PM

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 and a winner will be selected by a panel of echo experts.

Jennifer Romanowicz, MD, Boston Children's Hospital, Boston, MA – Pediatric Normal Values and Z-Score Equations for Left and Right Ventricular Strain by Two-Dimensional Speckle-Tracking Echocardiography Derived from 1000 Healthy Children

Quincy Hathaway, PhD, Heart and Vascular Institute, West Virginia University, Morgantown, WV – Morphometric Patterning of Acoustic Texture Parameters for Rapid Screening of Cardiac Remodeling Using Point-of-Care Ultrasound Imaging

Malamo Countouris, MD, University of Pittsburgh Medical Center, Pittsburgh, PA – Association of Hypertensive Disorders of Pregnancy with Coronary Microvascular Function 8-10 Years after Delivery

Jwan Naser, MBBS, Mayo Clinic, Rochester, MN – Myocardial Stiffness by Cardiac Elastography in Patients with Hypertrophic Cardiomyopathy: Relation with Myocardial Fibrosis and Clinical Outcomes

FEIGENBAUM LECTURER



Denisa Muraru, MD, PhD, FESC, FACC, FASE, University of Padua, Milano, Italy. Dr.

Muraru is an internationally recognized expert in right heart pathology and 3D echocardiography. Her scientific work has brought major contributions to and enriched the understanding of the "forgotten ventricle" and the "forgotten

valve." Much of what she has discovered about the right heart and tricuspid valve structure and function has influenced the field of transcatheter tricuspid valve therapy. Ultrasound companies have adopted software directly influenced by her work in 3D tricuspid valve analysis. She is a dedicated educator who has helped develop and teach numerous 3D echocardiography courses utilizing hands-on techniques. Dr. Muraru has been the chairperson of the EACVI education committee for four years and is the author of over 150 peer reviewed papers. She is also one of the principal investigators in the World Alliance of Societies of Echocardiography (WASE) Normal Value Study. Dr. Muraru will present "Right Heart, Right Now: The Role of Three-Dimensional Echocardiography" as the 22nd Annual Feigenbaum Lecture. The lecture was named for 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.

SCIENCE & TECHNOLOGY THEATER

3:00 - 4:00 PM

The Impact of Sonographer-Driven Contrast Administration Protocols on Efficiency and Diagnostic Utility *Presented by GE Healthcare*

There is a great deal of support for utilizing ultrasound enhancing agents in echocardiography, yet it is underutilized at many institutions. During this Science and Technology Symposium Rosco Gore, MD, and Monica Bush, RCS, will share the challenges faced at their institution and review two studies they published looking at efficiencies and the diagnostic utility of a sonographer-initiated UEA administration protocol. They will share tips from the recently released ASE UEA Playbook, and provide an in-depth look at how they overcame the UEA utilization challenges at our medical center.

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE

BRIAN HALUSKA SONOGRAPHER RESEARCH AWARD COMPETITION 4:00 - 5:00 PM

The ASE Foundation's annual Brian Haluska Sonographer Research Award Competition honors the late Brian Haluska, PhD, MSC (HONS), MSC, RDCS, AMS, FASE, and his incredible contributions to sonographer-led research over the course of his career. This competition recognizes non-physicians who served as the primary investigator on their project of original work. During this session the competition finalists will present their research and a winner will be selected by a panel of echo experts.

Beibei Ge, MD, The First Affiliated Hospital of Nanjing Medical University, Jiangsu, China – Short- and Long-Term Impact of Left Bundle Branch Block on Myocardial Work Performance

Sarah Fostello, BA, RCS, Beth Israel Deaconess Medical Center, Boston, MA – Formal Sonographer Feedback Leads to Reduction in Sonographer Technical Errors and Scan Omissions

Merri Bremer, EdD, RN, ACS, RDCS, FASE, Mayo Clinic, Rochester, MN – Pump vs. Push: Implementation of Ultrasound Enhancement Agent Administered by Infusion Pump During Dobutamine Stress Echocardiography

Denny Pham, RCS, RCCS, Stanford University, Stanford Children's Hospital, Stanford, CA – Comparison of 2-Dimensional Derived Fractional Lung Flow Distribution with Nuclear Lung Perfusion Scintigraphy and Introduction of 3-Dimensional Method

GARDIN LECTURE

4:00 - 5:00 PM



This annual lectureship was endowed to the ASE Foundation through a generous gift from ASE Past President, Julius Gardin, MD, FASE. Dr. Gardin mentored numerous physicians and sonographers and this lecture series supports his passion for education by providing funding to bring a luminary speaker to the Scientific Sessions every year. ASE is proud to have NASA astronaut **Serena Auñón-Chancellor, MD, MPH, Louisiana State University Health Sciences Center, Baton Rouge, LA**, deliver the 3rd Annual Gardin Lecture "My Life on Space: Impact on Biologic Science."

KALMANSON LECTURE 4:00 - 5:00 PM



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. The

ASE Foundation is honored to recognize **Catherine M. Otto, MD, FASE, University of Washington Medical Center, Seattle, WA**, as the 2021 Kalmanson Lecturer. Dr. Otto will present her lecture entitled

TECHNOLOGY SHOWCASE

5:15 - 5:45 PM

Philips LAA Solution Presented by Philips Healthcare

"Resolving Discrepancies in Aortic Stenosis."

Please visit the Philips Healthcare exhibit booth on the virtual platform to view their Technology Showcase.

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

SOUND SAVES LIVES 5:45 - 6:45 PM

Join us for a fascinating view of actual patient stories, depicting how their lives were positively impacted by echocardiography. The session will feature two fetal cases from Massachusetts General Hospital, offering the patient and provider perspectives with involvement of other staff for a multidisciplinary scope; along with Emma Carney, an Australian World Champion triathlete who has exercise-induced ARVD diagnosed by echocardiography.

ASE FOUNDATION VIRTUAL RESEARCH AWARDS GALA & GAME SHOW

7:00 PM - 8:30 PM

Presented by the ASE Foundation, this is open to all Scientific Sessions registrants and will honor the 2020 and 2021 ASE Award Winners. Please join us in congratulating the stars of our Gala, then join us for some fun! Host Sunil Mankad, MD, FASE, from Mayo Clinic, will try to stump three teams of expert physicians and sonographers with interesting cases. The event will feature "phone a friend" and "ask the audience" options in case the experts are stumped, so this is sure to be exciting and entertaining!

GAME SHOW PARTICIPANTS

Moderator: Carol Mitchell, PhD, RDMS, RDCS, RVT, RT(R), ACS, FASE

Team 1: Vera Rigolin, MD, FASE and Elizabeth McIlwain, MHS, ACS, RCS, FASE

Team 2: Jonathan Lindner, MD, FASE and Peg Knoll, RDCS, RCS, FASE

Team 3: Nat Pandian, MD and Brad Roberts, BS, ACS, RCS, RDCS, FASE

Phone a Friend: Meryl Cohen, MD, FASE, Chris Kramer, ACS, RDCS, FASE, and Alina Nicoara, MD, FASE

LIFETIME ACHIEVEMENT AWARD

ASE Lifetime Achievement Awards recognize individuals who have had a lifetime of outstanding achievements in the field of cardiovascular ultrasound and have served as role models through service, research, and teaching. These individuals have a career in cardiovascular ultrasound spanning at least 25 years and are recognized at local, national, and international levels.



The 2020 Physician Lifetime Achievement Award was awarded to Catherine M. Otto, MD, FASE, University of Washington Medical Center, Seattle, WA. Dr. Otto truly embodies the best in echocardiography. From pioneering research that showed the value of echo in aortic valve stenosis to promoting

patient involvement in decision-making, she has been a visible champion of echo throughout her career. Dr. Otto is recognized internationally as an expert in heart valve disease, Marfan syndrome, and other inherited structural heart conditions. Her research includes a landmark study demonstrating mild valve thickening is associated with adverse cardiovascular outcomes. She received the American College of Cardiology Distinguished Scientist Award for this research. Her work has transformed our understanding of valvular pathophysiology, which, in turn, has positively impacted a huge population living with disabling cardiovascular disease.

MERITORIOUS SERVICE AWARD

The Meritorious Service Award recognizes individual members for their substantial and generous efforts to the Society's betterment.



Bonita A. Anderson, M.APPL.SC, DMU, AMS, ACS, FASE, The Prince Charles Hospital, Brisbane, Australia. Ms. Anderson is one of the best-known cardiac sonographers in the world. She is a tireless advocate for echocardiography in general and sonographers in

particular. In 2020, Ms. Anderson was recognized for her track record of service to the ASE which has been extraordinary for more than 21 years. She is currently the ASE Membership Committee Chair and serves on the CASE Editorial Board. She has also served on several other ASE committees, task forces, and the **48 #ASE2021** board of directors. Ms. Anderson is also always willing to participate in ASE educational courses as a speaker. She has single-handedly recruited more than 40 members to join ASE, firmly establishing herself as an ambassador for our organization, especially to our international audience.

RICHARD POPP EXCELLENCE IN TEACHING AWARD



Recognized as a dynamic, visionary, and gifted teacher who is always willing to help, **Partho P. Sengupta, MBBS, MD, DM, FASE, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ**, was named the 20th annual recipient of the Richard Popp Excellence in Teaching Award in 2020. Dr. Sengupta is a true

teacher who not only solves the problem, but also walks trainees through the process enabling them to do the same in the future. He is an avid lover of technology who wants to apply innovation in the field of echocardiography for the betterment of healthcare around the globe. 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



Girish S. Shirali, MBBS, FASE, Children's Mercy Hospital, Kansas City, MO, was honored as the 2020 Excellence in Teaching in Pediatrics Awardee. Dr. Shirali is an extraordinary teacher and educator, an innovator and a pioneer in the advancement of

3D echo. His work has not only impacted numerous learners on an individual level but also has had an enormous influence in the field of pediatric cardiology and congenital heart disease. He can totally capture a crowd with a style and sense of humor that is engrossing. Whether leading a group echo workshop, on stage in front of hundreds at a conference, or in a one-on-one clinical imaging encounter, Dr. Shirali has an incredibly unique skill set in explaining difficult and complex ideas. 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



In 2020, Merri L. Bremer, EdD, RN, ACS, RDCS, FASE, Mayo Clinic, Rochester, MN, was named the 16th recipient of the Cardiovascular Sonographer Distinguished Teacher Award. Dr. Bremer is an extremely gifted and dedicated educator who has devoted her career to the field of cardiovascular ultrasound.

Her expert knowledge in echocardiography, her skill in presenting educational content, and her concern that all learners understand the information is an inspiration for anyone in the field. She is a mentor, role model, and visionary for practicing sonographers,

physicians, fellows, and sonography students in training. Everyone who interacts with Dr. Bremer appreciates her willingness to share her expertise and experiences to help advance the field of echocardiography. This award is given every other year and 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



Joseph A. Kisslo, MD, FASE, Duke University Medical Center, Durham, NC, was named the 8th recipient of the Outstanding Achievement in Perioperative Echocardiography Award in 2020. Dr. Kisslo, who was ASE President 1983-1984, has distinguished himself as the first to use phased array ultra-

sound imaging in the human body and, accordingly, was the first to describe most of the disease for which the technique is now commonplace. He was also very early into the applications of Doppler color flow imaging and transesophageal imaging with ultrasound. The Council recognizes an individual who has made significant clinical, research, or educational contributions to the development of the field of perioperative echocardiography with the presentation of this award.

MONDAY, JUNE 21

SCIENCE & TECHNOLOGY THEATER

4:00 - 5:00 PM

Machine Learning Enhanced Decisions: How Al Has Proved Itself an Ally to Clinicians for Accurate Echo Analysis and Outcome Predictions *Presented by Ultromics*

This session is split into two parts, focusing on the latest insights for using artificial intelligence in echocardiography, including realworld uses and shared experiences from the WASE-COVID study.

Part 1: Lead authors, Dr. Federico Asch and Dr. Roberto Lang, discuss with Gary Woodward the outcomes of the WASE-COVID trial, a multi-center study from the ASE Foundation and The World Alliance Societies of Echocardiography using artificial intelligence to analyze heart disease in COVID-19 patients.

Part 2: We hear from Gary Woodward, Chief Technical Officer of Ultromics, who hosts a sit-down conversation with Dr. Partho Sengupta, discussing the role of artificial intelligence today in clinical practice, and how it is providing physicians with the best insights to support clinical decisions for their patients – including what to know, what to do, and when to get started.

This session is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

Who makes ASE strong?



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.



For more information visit: ASEcho.org/MemberReferralProgram

The Rules: The member referral program is an ASE member benefit designed to encourage current members to spread the word about the value of ASE membership. If you are not sure of your member status, call us at 919-861-5574. This offer expires August 31, 2021. New members must include the referring member's name on the membership application to receive the ASE referral gift. Referring credit is received once a new member joins ASE. A maximum of one free membership per member per year can be earned.

ASE FOUNDATION AWARDS AND GRANTS



The following Awards and Grants are supported by the ASE Foundation. Charitable donations are fostering the next generation of cardiovascular ultrasound professionals.

PAMELA S. DOUGLAS, MD, FASE RESEARCH SCHOLAR AWARD

Established in honor of ASE's 13th President, a true pioneer in clinical research, Dr. Pamela S. Douglas, this award supports the future of echocardiographic research by granting one-year (12 months) scholarships to support clinical or translational scholars in advanced cardiovascular ultrasound research. The ASE Foundation is proud to recognize **Yasufumi Nagata**, **MD**, **PhD**, **Massa-chusetts General Hospital**, **Boston**, **MA**, as the inaugural recipient in 2021.

ASE FOUNDATION TOP INVESTIGATORS

The presentation of original research from around the world is an integral component of ASE's annual meeting. A special group of early career abstract presenters were selected by the Abstract Chairs based on the scientific merit of their research projects and were awarded complimentary registration to the Scientific Sessions from the Foundation. The **Alan S. Pearlman Research Award**, established to honor Dr. Pearlman's ten years of service as JASE Editor-In-Chief and supported by a grant to the ASE Foundation by Elsevier, is an annual award of \$1,000 given to the highest scoring investigator in this group.

2020 INVESTIGATORS

- ★ Priyanka Asrani, MBBS, Boston Children's Hospital, Boston, MA – Alan S. Pearlman Research Awardee
- ★ David Barris, MD, New York Presbyterian, Columbia University Medical Center, Bronx, NY
- ★ Samuel Bernard, MD, Massachusetts General Hospital, Boston, MA
- ★ Cameron Dockerill, BS, University of Oxford, Oxford, United Kingdom
- ★ Alessandra Ferraro, MD, Boston Children's Hospital, Boston, MA
- ★ Nir Flint, MD, Cedars Sinai Medical Center, Los Angeles, CA
- ★ Benjamin Frank, MD, Children's Hospital Colorado, Aurora, CO
- ★ Danielle Harake, MD, University of Alberta, Stollery Children's Hospital, Edmonton, AB, Canada
- ★ Danelle Hidano, MD, University of California San Francisco, San Francisco, CA
- ★ Ashton Lai, MD, Mount Sinai Hospital, New York, NY
- ★ Hyun-Jung Lee, MD, Seoul National University Hospital, Seoul, Korea

- ★ Charlotte Lee, BS, Georgia Institute of Technology, Atlanta, GA
- ★ Dai-Yin Lu, MD, University of California San Francisco, San Francisco, CA
- ★ Christopher Mardy, MD, Stanford University, Lucile Packard Children's Hospital, Palo Alto, CA
- ★ Arvind Nishtala, MD, Northwestern University, Chicago, IL
- ★ Andrew Peters, MD, Northwestern University Feinberg School of Medicine, Chicago, IL
- ★ Amita Singh, MD, University of Chicago, Chicago, IL
- ★ Kavisha Singh, MD, University of Texas Southwestern Medical Center, Dallas, TX
- ★ Hongning Song, MD, Massachusetts General Hospital, Dorchester, MA
- ★ James Wilkinson, MD, Baylor College of Medicine / Texas Children's Hospital, Houston, TX

2021 INVESTIGATORS

- ★ Bliss Uribe, BS, Georgia Institute of Technology, Atlanta, GA - Alan S. Pearlman Research Awardee
- ★ Kasey J. Chaszczewski, MD, Children's Hospital of Philadelphia, Philadelphia, PA
- ★ Jennifer Cohen, MD, Mount Sinai Hospital, New York, NY
- ★ Esther F. Davis, MBBS, DPhil, Massachusetts General Hospital, Boston, MA
- ★ Mansi Gaitonde, MD, Emory University, Atlanta, GA
- ★ Peter Huntjens, PhD, Washington University in St. Louis, St. Louis, MO
- ★ C. Charles Jain, MD, Mayo Clinic, Rochester, MN
- ★ Ilya Karagodin, MD, University of Chicago Medicine, Chicago, IL
- ★ Billal Mohmand, MD, SUNY Upstate University Hospital, Syracuse, NY
- ★ Koya Ozawa, MD, Oregon Health & Science University, Portland, OR
- ★ Hena Patel, MD, University of Chicago Medicine, Chicago, IL
- ★ Trisha M. Patel, MD, Emory University, Atlanta, GA
- ★ Aly Safwat, MD, The Hospital for Sick Children, University of Toronto, Toronto, ON, Canada
- ★ Jenna S. Schauer, MD, Seattle Children's Hospital, Seattle, WA
- ★ Amita Singh, MD, University of Chicago Medicine, Chicago, IL
- ★ Nanda K. Siva, BS, West Virginia University, Morgantown, WV
- ★ Adam M. Skaff, MD, Monroe Carell Jr. Children's Hospital at Vanderbilt, Nashville, TN
- ★ Dylan Sperling, MD, Mount Sinai Hospital, New York, NY
- ★ Nadav A. Willner, MD, University of Ottawa Heart Institute, Ottawa, ON, Canada
- ★ Neal Yuan, MD, Cedars-Sinai Smidt Heart Institute, Los Angeles, CA

TOMTEC INNOVATOR RESEARCH GRANT

Supported by a grant to the ASE Foundation from TOMTEC IMAGING SYSTEMS GMBH, this annual award of \$4,000 is given to assist a promising young researcher presenting his/her work at the ASE Scientific Sessions. For more than 20 years, TOM-TEC 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.

2020 Winner: **Megan Yamat, RDCS, RCS, ACS, FASE**, University of Chicago Hospital, Chicago, IL

2021 Winner: **Alessandra Ferraro, MD**, Boston Children's Hospital, Harvard Medical School, Boston, MA

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 Scientific Sessions and limited travel support. Recipients were chosen from a large number of students who were nominated by their program directors.

2020 WINNERS

- ★ Erin Eckels, Mayo Clinic School of Health Sciences Echocardiography Program
- ★ Isabel Edwards, The Johns Hopkins Hospital School of Cardiac Sonography
- ★ Megan Fransway, Mayo Clinic School of Health Sciences Echocardiography Program
- ★ Meghan Higginson, The Hoffman Heart Institute
- ★ Leyla Ilyas-Sharafi, Morristown Medical Center School of Cardiovascular Technology
- ★ Ashley Jerman, Cuyahoga Community College Diagnostic Medical Sonography Adult Echocardiography
- ★ Higus Mekonen, UAMS Diagnostic Medical Sonography Program
- ★ Elizabeth Ragozzino, Yale New Haven Hospital School of Diagnostic Ultrasound
- ★ Keirra Stahl, South Hills School of Business & Technology
- ★ Kaylee Weaver, South Hills School of Business & Technology
- ★ Grace Wong, Bellevue College

2021 WINNERS

- ★ Augusta Casterton, Mayo Clinic School of Health Sciences Echocardiography Program
- ★ Katelyn Harrison, Sentara College of Health Sciences
- ★ Matthew Johnson, Bellevue College
- ★ Amanda Kline, South Hills School of Business & Technology
- ★ Andrea McAuliffe, Aurora St. Luke's Medical Center School of Diagnostic Medical Sonography
- ★ Ashley Meyer, Dartmouth Hitchcock Medical Center
- ★ Claudia Ramirez, University of Wisconsin Hospital School of DMS
- ★ Kurt Scheeler, Loma Linda University Diagnostic Cardiac Sonography Certificate Program
- ★ Bivy Stanitis, Yale New Haven Hospital School of Diagnostic Ultrasound
- ★ Lindsey Urban, Clemson University
- ★ Madeline Walters, Aurora St. Luke's Medical Center School of Diagnostic Medical Sonography

FEIGENBAUM CARDIOVASCULAR SONOGRAPHER STUDENT TRAINING 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 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.

2020 Winner: Mailee Xiong, Piedmont College, Demorest, GA

2021 Winner: Arione Jones, Cincinnati State Technical & Community College, Cincinnati, OH

COUNCIL TRAINING GRANT AWARDS

The ASE Foundation sponsors Council Training Grant Awards to fellows, trainees, and sonographers to fund their attendance at the Scientific Sessions. These 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 TRAINING GRANT AWARD

2020 Recipients: **Henar EL Makhzangy, PhD**, Alexandria University EL Shatby Hospital for Children, Alexandria, Egypt; **Kirsten Graff, MD**, Medical University of South Carolina, Charleston, SC;

Igor Averkin, MD, Almazov National Medical Research Center, St. Petersburg, Russia

2021 Recipients: **Daphney Kernizan, DO**, Nemours Children's Health System, Wilmington, DE; **J. Kevin Wilkes, MD**, Baylor College of Medicine/Texas Children's Hospital, Houston, TX

COUNCIL ON CIRCULATION & VASCULAR ULTRASOUND TRAINING GRANT AWARD

2020 Recipients: **Koya Ozawa, MD, PhD**, Knight Cardiovascular Institute, Oregon Health & Science University, Portland, OR; **Alpana Senapati, DO**, Houston Methodist DeBakey Heart & Vascular Center, Houston, TX

COUNCIL ON PERIOPERATIVE ECHOCARDIOGRAPHY TRAINING GRANT AWARD RECIPIENTS

2020 Recipient: **Alexander Woltersom, MD**, Groningen, Netherlands

2021 Recipient: **Promise Ariyo, MD**, John Hopkins University, Baltimore, MD

COUNCIL ON CARDIOVASCULAR SONOGRAPHY TRAINING GRANT AWARDS

2020 Recipients: **Saskia Oosthuizen**, GenesisCare, Victoria, Australia; **Grisel Carvajal, RCS, RVS, RDCS, FASE**, Gables Diagnostics, Hialeah, FL; **Allison Sterk, RDCS (AE)(PE)(FE), FASE**, Helen DeVos Children's Hospital, Hudsonville, MI; **Carolyn West**, Heart Centre – St. John of God, Geelong Hospital, Victoria, Australia

2021 Recipients: **Lisa Elliott, BHS, RDCS**, Nemours Cardiac Center, Wilmington, DE; **Lynsy Friend, BS, RCS, FASE**, Dartmouth-Hitchcock Heart & Vascular Center, Lebanon, NH

KATANICK SCHOLARSHIP AWARD

The Katanick Scholarship Award was awarded to **Mariah Bennett, Aurora St. Luke's Medical Center School of Diagnostic Medical Sonography, Waukesha, WN at ASE 2020.** The 2021 award is presented to **Jennifer Danos, Mayo Clinic School of Health Sciences Echocardiography Program, Rochester, MN**. This award includes a \$1,000 student scholarship for the highest-ranking student sonographer candidate nominated for ASEF scholarship awards and complimentary registration 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.



ASE proudly recognizes our International Alliance Partners (listed alphabetically)

Argentine Federation of Cardiology Argentine Society of Cardiology ASEAN Society of Echocardiography Asian-Pacific Association of Echocardiography Australasian Society for Ultrasound in Medicine Australasian Sonographers Association British Heart Valve Society British Society of Echocardiography Canadian Society of Echocardiography Cardiac Society of Australia and New Zealand, Imaging Council Cardiothoracic Anaesthesia Society of South Africa Chinese Society of Echocardiography College of Anaesthesiologists, Singapore Cuban Society of Cardiology, Echocardiography Section Department of Cardiovascular Imaging of the **Brazilian Society of Cardiology** European Association of Cardiovascular Imaging Indian Academy of Echocardiography Indian Association of Cardiovascular Thoracic Anaesthesiologists Indonesian Society of Echocardiography Iranian Society of Echocardiography Israel Working Group on Echocardiography Italian Association of Cardiothoracic Anaesthesiologists Japanese Society of Echocardiography Korean Society of Echocardiography Mexican Society of Echocardiography and Cardiovascular Imaging National Association of Cardiologists of Mexico, AC National Society of Echocardiography of Mexico A.C. The Pan-African Society of Cardiology Philippine Society of Echocardiography Society of Cardiovascular Images of the Inter-American Society of Cardiology Saudi Arabian Society of Echocardiography Thai Society of Echocardiography Venezuelan Society of Cardiology, Echocardiography Section Vietnamese Society of Echocardiography

ASEcho.org/Alliance





8-11 December

25th Annual Congress of the EACVI www.escardio.org/EACVI



#EuroEcho

SCIENCE & TECHNOLOGY THEATER SCHEDULE

SATURDAY, JUNE 19[™]

12:10 PM – 1:10 PM Improving Quality and Efficiency in Echocardiography Presented by Lantheus Medical Imaging, Inc.

3:00 PM – 4:00 PM Innovating Echo: Efficiency, Confidence, and Expanded Access to Care *Presented by Siemens Healthineers*

SUNDAY, JUNE 20TH

12:15 PM – 1:15 PM What's New with Transcatheter Mitral Valve Repair (or TEER*) and What's Coming in the Future *Presented by Abbott*

3:00 PM - 4:00 PM **The Impact of Sonographer-Driven Contrast Administration Protocols on Efficiency and Diagnostic Utility** *Presented by GE Healthcare*

MONDAY, JUNE 21st

4:00 PM - 5:00 PM Machine Learning Enhanced Decisions: How AI Has Proved Itself an Ally to Clinicians for Accurate Echo Analysis and Outcome Predictions Presented by Ultromics

These sessions are not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.



Abbott





Lantheus invites you to a SYMPOSIUM

Improving Quality and Efficiency in Echocardiography

Join us to learn about the important role contrast has in improving quality and efficiency in echocardiography. Gain insight into an efficient implementation process and how to establish a sonographer contrast administration protocol to improve overall quality patient care. A live Q & A session will follow the presentation.

To watch this symposium, you must be registered for ASE 2021: Virtual Experience Register now at *https://www.asescientificsessions.org/register-now/*

For updated information about this session bookmark: https://www.asescientificsessions.org/science-technology-theater/lantheus

> SDMS credit available Saturday, June 19th, 2021 12:10 – 1:10 PM ET

Incorporating Contrast within your Institution



Establishing a Sonographer Contrast Administration Protocol



Gina Conigliaro-Brito MHA, RDCS, RCS, RVS



Omar Husseini M.D.

The content and views expressed therein are not part of the American Society of Echocardiography's Official Scientific Sessions Program Committee This advertisement is neither sponsored nor endorsed by the American Society of Echocardiography.

Trademarks, registered or otherwise, are the properties of their respective owner(s). ©2021 Lantheus Medical Imaging, Inc. All rights reserved. May 2021

Save the Date!

Innovating Echo: Efficiency, Confidence, and Expanded Access to Care

ASE 2021 S&T Theater

Saturday, June 19, 2021 | 3:00 p.m.-4:00 p.m. | Virtual

siemens-healthineers.us/ase2021



This activity is not a part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.



ATTEND THE ABBOTT-SPONSORED SCIENCE & TECHNOLOGY THEATER AT ASE 2021!

What's New with Transcatheter Mitral Valve Repair (or TEER*) and What's Coming in the Future:

Learn More About New Guideline Recommendations and Techniques to Identify MR and MitraClip Suitable Patients through TTE and TEE.

Sunday, June 20 | 12:15 PM - 1:15 PM ET

- New ACC/AHA Guideline Recommendations for TMVr/TEER
- Accurate MR Assessment to Find MitraClip Suitable Patients
- What Imaging Views are Important for a Successful Procedure
- REPAIR MR** Trial: Evaluating New Treatment Options for Moderate Risk Patients



Jyothy Puthumana MD, MS, FACC, FASE



Robert Burke MD, FASE, FSCAI



Patrick McCarthy MD, FACC

NLY Important Safety Information Indications for Use

- The MitraClip[™] G4 System is indicated for the percutaneous reduction of significant symptomatic mitral regurgitation (MR ≥ 3+) due to primary abnormality of the mitral apparatus [degenerative MR] in patients who have been determined to be at prohibitive risk for mitral valve surgery by a heart team, which includes a cardiac surgeon experienced in mitral valve surgery and a cardiologist experienced in mitral valve disease, and in whom existing comorbidities would not preclude the expected benefit from reduction of the mitral regurgitation.
- The MitraClip[™]G4 System, when used with maximally tolerated guideline-directed medical therapy (GDMT), is indicated for the treatment of symptomatic, moderate-tosevere or severe secondary (or functional) mitral regurgitation (MR; MR ≥ Grade III per American Society of Echocardiography criteria) in patients with a left ventricular ejection fraction (LVEF) ≥ 20% and ≤ 50%, and a left ventricular end systolic dimension (LVESD) ≤ 70 mm whose symptoms and MR severity persist despite maximally tolerated GDMT as determined by a multidisciplinary heart team experienced in the evaluation and treatment of heart failure and mitral valve disease.

Contraindications

The MitraClip G4 System is contraindicated in patients with the following conditions: Patients who cannot tolerate, including allergy or hypersensitivity to, procedural anticoagulation or post procedural anti-platelet regime; Patients with known hypersensitivity to clip components (nickel / titanium, cobalt, chromium, polyester), or with contrast sensitivity; Active endocarditis of the mitral valve; Rheumatic mitral valve disease; Evidence of intracardiac, inferior vena cava (IVC) or femoral venous thrombus Patantial Complexitience and Adverse Function

Potential Complications and Adverse Events

The following ANTICIPATED EVENTS have been identified as possible complications of the MitraClip G4 procedure: Allergic reactions or hypersensitivity to latex, contrast agent, anaesthesia, device materials (nickel / titanium, cobalt, chromium, polyester), and drug reactions to anticoagulation, or antiplatelet drugs, Vascular access complications

which may require transfusion or vessel repair including: wound dehiscence, catheter site reactions, Bleeding (including ecchymosis, oozing, hematoma, hemorrhage, retroperitoneal hemorrhage), Arteriovenous fistula, pseudoaneurysm, aneurysm, dissection, perforation / rupture, vascular occlusion, Emboli (air thrombotic material, implant, device component); Peripheral Nerve Injury; Lymphatic complications; Pericardial complications which may require additional intervention, including: Pericardial effuse on, Cardiac tamponade, Pericarditis; Cardiac complications which may require additional interventions or emergency cardiac surgery, including: Cardiac perforation, Atrial septal defect; Mitral valve complications, which may complicate or prevent later surgical repair, including: Chordal entanglement / rupture, Single Leaflet Device Attachment (SLDA), Thrombosis, Dislodgement of previously implanted devices, Tissue damage, Mitral valve stenosis, Persistent or residual mitral regurgitation, Endocarditis; Cardiac arrhythmias (including conduction disorders, atrial arrhythmias, ventricular arrhythmias); Cardiac ischemic conditions (including myocardial infarction, myocardial ischemia, and unstable / stable angina); Venous thromboembolism (including deep vein thrombosis, pulmonary embolism, post procedure pulmonary embolism); Stroke / Cerebrovascular accident (CVA) and Transient Ischemic Attack (TIA); System organ failure: Cardio-respiratory arrest, Worsening heart failure, Pulmonary congestion, Respiratory dysfunction / failure / atelectasis, Renal insufficiency or failure, Shock (including cardiogenic and anaphylactic); Blood cell disorders (including coagulopathy, hemolysis, and Heparin Induced Thrombocytopenia (IHTD); Hypotension / hypertension; Infection including: Urinary Tract Infection (UTI), Pneumonia, Septicemia; Nausea / vomiting; Chest pain; Dyspnea; Edema; Fever or hyperthermia; Pain; Death; Fluoroscopy, Transesophageal echocardiogram (TEE) and Transthoracic echocardiogram (TTE) -related complications: Skin

Caution: This product is intended for use by or under the direction of a physician. Prior to use, reference the Instructions for Use provided inside the product carton (when available) or at eifu.abbottvascular.com or at medical.abbott/manuals for more detailed information on Indications, Contraindications, Warnings, Precautions and Adverse Events.

*Transcatheter Edge to Edge Repair

**CAUTION: MitraClip (for REPAIR-MR indications) is an investigational device. Limited by Federal (U.S.) law to investigational use only. This activity is not part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE. Photo(s) on file at Abbott.

Abbott 3200 Lakeside Dr., Santa Clara, CA 95054 USA, Tel: 1.800.227.9902

™ Indicates a trademark of the Abbott group of companies.

www.structuralheart.abbott

©2021 Abbott. All rights reserved. MAT-2107045 v1.0 | Item approved for U.S. use only.



GE Healthcare



Join us for the Science and Technology Theater session:

"The Impact of Sonographer-Driven Contrast Administration Protocols on Efficiency and Diagnostic Utility"

Sunday, June 20, 3:00PM-4:00PM ET

PRESENTED BY



Rosco Gore, MD Echocardiography Director Brooke Army Medical Center



Monica Bush, RCS, Supervisory Sonographer Brooke Army Medical Center Support for utilizing ultrasound enhancing agents (UEAs) in echocardiography is strong. Yet many institutions face a variety of challenges utilizing it as frequently as societies recommend. Join our presenters to hear about two recently published studies looking at efficiencies and diagnostic utility of a sonographer-initiated UEA administration protocol, tips from the recently released "Ultrasound Enhancing Agents: Recommended Laboratory Practices from ASE," and insights into how their institution overcame challenges and achieved efficiencies plus diagnostic utility.

Brought to you by



OPTISON^{**}

(Perflutren Protein-Type A Microspheres Injectable Suspension, USP)

A clear path forward™

IMPORTANT SAFETY INFORMATION ABOUT OPTISON

WARNING: SERIOUS CARDIOPULMONARY REACTIONS

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

- Assess all patients for the presence of any condition that precludes Optison administration
- Always have resuscitation equipment and trained personnel readily available

- Optison is the only UEA that does not contain PEG, and does not require a device or specific equipment to prepare or activate
- Optison has a highly consistent microsphere size, and simple preparation helps ensure a high level of suspended microspheres
- Vials can go directly from storage to cart without premixing
- If unopened and at room temperature up to 24 hours, Optison may be returned safely to refrigeration for use at a later time
- Optison takes <1 minute from suspension to injection in three steps: prepare, check and load syringe

PRODUCT INDICATION: Optison[™] (Perflutren Protein-Type A Microspheres Injectable Suspension, USP) is indicated for use in patients with suboptimal echocardiograms to opacify the left ventricle and to improve the delineation of the left ventricular endocardial borders.

• **CONTRAINDICATION:** Do not administer Optison to patients with known or suspected hypersensitivity to perflutren, blood, blood products, or albumin.

ADVERSE EVENTS: The most frequently reported adverse reactions in clinical trials were headache, nausea and/or vomiting, warm sensation or flushing and dizziness. Cardiac arrests and other serious but nonfatal adverse reactions were uncommonly reported in post-approval use. Reports also identified neurologic reactions (loss of consciousness or convulsions) as well as anaphylactoid reactions.

Please see additional Important Safety Information About Optison and Full Prescribing Information, <u>here</u>.

Science and Technology Theater sessions are not part of the official ASE Annual Scientific Sessions, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.

The content and views expressed therein are not part of the American Society of Echocardiography's official Scientific Sessions Program Committee. This advertisement is neither sponsored nor endorsed by the American Society of Echocardiography

© 2021 General Electric Company. GE, the GE Monogram, and Optison are trademarks of General Electric Company. Any third-party trademarks are the property of their respective owners. May 2021 JB05095US

Automated Analysis Proven To Predict Patient Outcomes



Don't miss our ASE 2021 Science and Technology Theater Session

Mon. June 21, 4:00-5:00

Machine Learning Enhanced Decisions How AI has proved itself an ally to clinicians for accurate echo analysis and outcome predictions

SPEAKERS:

Dr. Federico Asch, MD, FASE, FACC Director of the Echo Core Lab at MedStar Health Research Institute

Dr. Roberto Lang MD, FASE, FACC, FAHA, FESC Director, Noninvasive Cardiac Imaging Laboratory at Univ. of Chicago Medicine

Dr. Partho Sengupta MD, FASE, FACC Chief, Division of Cardiology at WVU Heart and Vascular Institute

This activity is not a part of the official ASE 2021 Virtual Experience, as planned by the Program Committee, or in any way endorsed by or affiliated with ASE.



New & Updated Products for 2021



Visit the ASE Headquarters Booth to learn more about all of ASE's educational offerings. Receive 10% off products^{*} using code **ASE2021** through June 30, 2021.





Order Products Online at ASELearningHub.org

*Product discount does not include Online Libraries, Guideline Reference Bundle, 2021 Image Calendar, ASCeXAM/ReASCE Online Practice Exam Simulation, On-Demand Webinars, Virtual Course Registrations, textbooks, and JASE articles

★ EXHIBIT HALL ★ WHERE INNOVATION AND SCIENCE MEET

Don't miss the ASE 2021 Scientific Sessions Virtual Exhibit Hall. The exchange of information and access to new concepts, technology, devices, and research is a vital component of your professional development. Chat 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. Visit the Exhibit Hall on the ASE 2021 Platform to chat, view company collateral, schedule a meeting, drop a business card, and more.



Abbott

3200 Lakeside Drive Santa Clara, CA 95054 United States Phone: 408-845-3000 www.structuralheart.abbott

Abbott is a global healthcare leader that helps people live more fully at all stages of life. Our portfolio of life-changing technologies spans the spectrum of healthcare, with leading businesses and products in diagnostics, medical devices, nutritionals and branded generic medicines. Our 109,000 colleagues serve people in more than 160 countries.



American Society of Echocardiography (ASE)

2530 Meridian Parkway Suite 450 Durham, NC 27713 United States Phone: 919-861-5574 Email: **ASE@ASEcho.org**

ASEcho.org

As the largest global organization representing the cardiovascular ultrasound community, ASE is a vibrant and progressive organization. Visit the ASE booth to find comprehensive information on all of our educational programs and products, membership opportunities, initiatives, and advocacy efforts. ASE staff is available virtually throughout the sessions to help with whatever you need.



ASE Foundation

2530 Meridian Parkway Suite 450 Durham, NC 27713 United States Phone: 919-861-5574 Email: Foundation@ASEcho.org ASEFoundation.org

The ASE Foundation (ASEF) is ASE's charitable arm, helping to assure the viability and visibility of cardiovascular ultrasound. ASEF was created to provide support for initiatives, such as training

scholarships and scientific research, not supported by membership dues. The scope and success of these projects are completely dependent on donor giving. Each year, we look to ASE members, the greater community of health care providers, corporate and industry partners, and other foundations to secure the funding needed to realize these goals. Together, we can make a world of difference! Please visit ASEF's booth for anything Foundationrelated throughout the conference.

ARDMS / APCA

1401 Rockville Pike, Suite 600 Rockville, MD 20852 United States Phone: 301-738-8401

ARDMS.org

The ARDMS and APCA certify healthcare professionals in diagnostic medical sonography and medical imaging. Last year, ARDMS launched the "A Day Without A Sonographer" campaign. In 2019, the organization also launched the video series, Real Talk Sonography.



ASCEND Health IT

801 Warrenville Road, Suite 200 Lisle, IL 60532 United States Phone: 312-485-1426 www.ascendhit.com



With over 20 years of experience in Cardiovascular workflow and IT, we provide an unparalleled level of clinical expertise. We provide healthcare solutions that create clinical and operational value through workflow innovation, enterprise integration, and clinical knowledge. We are solving today's cardiovascular data accessibility and usability challenges.

Biosense Webster

31 Technology Drive Irvine, CA 92618 United States Phone: 800-729-9010

www.jnjmedicaldevices.com/en-US/companies/biosensewebster

Headquartered in Irvine, Calif., Biosense Webster, Inc., is the global market leader in the science and technology behind the diagnosis and treatment of cardiac arrhythmias. Learn more at **www.biosensewebster.com** and connect on LinkedIn and Twitter.



Bracco Diagnostics Inc.

259 Prospect Plains Road, Bldg H Monroe Township, NJ 08831 United States Phone: 609-514-2200 http://www.braccoimaging.com/us-en

Bracco Imaging offers products and solutions for all key diagnostic imaging modalities: X-ray (including Computed Tomography, Interventional Radiology, and Cardiac Catheterization), Magnetic Resonance Imaging, Contrast Enhanced Ultrasound, and Nuclear Medicine through radioactive tracers. This portfolio is complimented by a range of medical devices and advanced administration systems.





Bristol Myers Squib

3401 Princeton Pike Lawrence Township, NJ 08648 United States Phone: 407-616-8529

www.bms.com

Bristol Myers Squibb is a leading global biopharma company focused on discovering, developing and delivering innovative medicines for patients with serious diseases in areas including oncology, hematology, immunology, cardiovascular, fibrosis and neuroscience. Our employees work every day to transform patients' lives through science.

British Society of Echocardiography (BSE)

Unit 204, The Print Rooms, 164-180 Union Street London SE1 0LH United Kingdom Phone: 20-8065-5794

www.bsecho.org

The British Society of Echocardiography represents and supports clinical echocardiography professionals working at all levels to deliver the highest standard of care in echo. As well as our industry-leading accreditation programmes, we offer a wide range of member benefits including educational events and guidelines, eLearning and our ECHO journal.



Canon Medical Systems

2441 Michelle Drive Tustin, CA 92780 United States Phone: 714-669-4190 https://us.medical.canon

Canon Medical Systems USA, Inc., headquartered in Tustin, Calif., markets, sells, distributes and services radiology and cardiovascular systems, including CT, MR, ultrasound, X-ray and interventional X-ray equipment. For more information, visit Canon Medical Systems' website at **https://us.medical.canon**.

Caption Health

2000 Sierra Point Parkway, Suite 800 Brisbane, CA 94005 United States Phone: 415-671-4711 www.captionhealth.com

Caption Health is empowering healthcare providers with new capabilities to acquire and interpret cardiac ultrasound with the help of artificial intelligence. The world's first and only FDA cleared Al-guided ultrasound system, Caption Al, enables more clinicians to perform diagnostic-quality echocardiograms at the point of care—regardless of prior ultrasound experience.

CardioVillage

PO Box 6449 Charlottesville, VA 22906 United States Phone: 855-493-5274 https://cardiovillage.com/

At CardioVillage, we bring online cardiovascular education to your fingertips through mobile-friendly, relevant, and engaging courses. The course catalog includes nearly 150 accredited cardiology courses with over 60 hours of CE credits available through courses covering cardiology fundamentals, echocardiography, quality improvement, fetal cardiology, patient cases, and new topics and trends.

Cedaron Medical

1644 da Vinci Court Davis, CA 95618 United States Phone: 800-424-1007 www.cedaron.com

CardiacCare registry software automates and validates data collection. Confirm accuracy and get answers on-the-fly with centralized auditing and self-serve analytics. Certified for interoperability, CardiacCare works with any EHR and 30+ registries. Cedaron's Data Abstraction Service supplements your team with healthcare's best data management experts. No long-term contract; engage as needed.

CIVCO Medical Solutions

102 First Street S Kalona, IA 52247 United States Phone: 319-248-6757 https://www.civco.com/

CIVCO is a trusted infection control partner to help clinicians maintain compliance for ultrasound. CIVCO offers a full line of ultrasound probe covers, as well as a high-level disinfection business that includes the ASTRA automated reprocessor for TEE and endocavity probes,

storage cabinets, pre-cleaning accessories and transportation trays.

DiA Imaging Analysis

HaEnergia 77 Beer Sheva 84102 Israel Phone: 972-77-7648318

www.dia-analysis.com

DiA is the leading provider of 7 FDA cleared and CE marked ultrasound AI solutions that make the use and analysis of ultrasound images smarter, faster and accessible to all. DiA's AI-based solutions address the two main challenges ultrasound users face today manually capturing and visually analyzing ultrasound images.

Epsilon Imaging

333 Jackson Plaza, Suite 100 Ann Arbor, MI 48103 United States Phone: 513-235-0039 https://epsilon-imaging.com/

Epsilon Imaging is transforming diagnostic workflow in echocardiography with Echolnsight, a vendor neutral, zero footprint software platform with strain imaging. Echolnsight makes it easy to incorporate strain imaging into clinical practice with its suite of applications designed specifically for managing a wide variety of indications across your echo program. European Association of Cardiovascular Imaging (EACVI) France

Phone: 33 4 92 94 76 00 https://www.escardio.org/

The European Association of Cardiovascular Imaging, a registered branch of the ESC, is the world-leading network of CVI experts, welcoming over 8,000 professionals including cardiologists, sonographers, basic scientists and allied professionals. The EACVI is a unified community gathering four imaging modalities under one entity (Echocardiography, CMR, Nuclear and Cardiac CT).

FUJIFILM Medical Systems USA, Inc.

81 Hartwell Avenue Lexington, MA 02421 United States Phone: 317-710-7221 https://www.fujifilmhealthcare.com/enterprise-imaging/synapse-cardiology-pacs

Fujifilm's Synapse[®] Cardiology PACS – part of the comprehensive and interoperable Synapse Enterprise Imaging portfolio – brings the complete patient picture to today's cardiologists. The solution provides inherent interoperability, integrates with third-party software, and continuously evolves to keep pace with the ever-changing healthcare environment.



GE Healthcare 500 W. Monroe Street Chicago, IL 60661 United States Phone: 331-255-7264

www.gehealthcare.com

GE Healthcare is a leading global medical technology and solutions innovator. Our Cardiology Solutions seamlessly integrate AI-powered ultrasound technologies, imaging solutions, and IT offerings to help heart care teams make sound diagnostic decisions and operate at peak efficiency while delivering high-quality patient care.

HITACHI Inspire the Next



Hitachi Healthcare 1959 Summit Commerce Park Twinsburg, OH 44087 United States Phone: 330-425-1313 www.hitachihealthcare.com

Hitachi Healthcare is delivering the next level of cardiovascular ultrasound. Our portfolio of cardiac and vascular solutions, including the premium 2D and 3D Lisendo 880 system, deliver exceptional clinical performance with state-of-the-art features and analytics.

ImageGuideEcho

ASE's ImageGuideEcho™

2530 Meridian Parkway, Suite 450 Durham, NC 27713 United States Phone: 919-861-5574 ImageGuideEcho.org

A module under the ImageGuideRegistry® platform, the ImageGuideEcho Registry is the nation's first clinical data registry for non-invasive cardiovascular imaging. Within the Registry, your institution will have the analytical tools to track quality improvement, fulfill IAC accreditation requirements for QI documentation: report completeness and timeliness, connect to outcomes data and examine data in the registry to conduct innovative research. The ImageGuideRegistry is offered in partnership with the American Society of Nuclear Cardiology.

Intersocietal Accreditation Commission (IAC)

6021 University Boulevard, Suite 500 Ellicott City, MD 21043 United States Phone: 800-838-2110



https://www.intersocietal.org

The IAC programs for vascular testing, echocardiography, nuclear/PET, MRI, CT/dental, carotid stenting, vein center, cardiac electrophysiology and cardiovascular catheterization are dedicated to ensuring quality patient care and support one mission: Improving health care through accreditation[®]. Visit our virtual booth to learn about IAC's tools to help your facility meet its quality goals including the QI Self-Assessment Tool and QI MOC Activity.



Lantheus Medical Imaging, Inc.

331 Treble Cove Road North Billerica, MA 01862 United States Phone: 800-362-2668

https://www.lantheus.com

Lantheus is an established leader and fully integrated provider of innovative imaging diagnostics, targeted therapeutics, and artificial intelligence solutions to Find Fight and Follow® serious medical conditions. For more information, please visit **www.lantheus.com**.

MedAxiom, An ACC Company

2300 Marsh Point Road, Suite 200 Neptune Beach, FL 32266 United States Phone: 904-249-1880

www.MedAxiom.com

MedAxiom, an ACC Company, is the cardiovascular community's premier source for organizational performance solutions. MedAxiom is transforming cardiovascular care by combining the knowledge and power of 425+ cardiovascular organization members, thousands of administrators, clinicians and coders and 35+ industry partners.



National Board of Echocardiography, Inc. (NBE) 1500 Sunday Drive Raleigh, NC 27607 United States Phone: 919-861-5582 www.echoboards.org

The National Board of Echocardiography, Inc. is a physician, volunteerled not-for-profit corporation. Established in 1996 to develop and administer examinations in the field of Clinical Echocardiography. A board certification process has been developed to publicly recognize Diplomates of the National Board of Echocardiography. The following examinations are administered by the NBE: ASCeXAM, ReASCE, Advanced PTEeXAM, ReAPTE, BPTEeXAM, and CCEeXAM. Visit our booth for a chance to win an exam!





Pfizer 235 E. 42nd Street New York, NY 10017 United States Phone: 212-733-2323 www.pfizer.com

About Pfizer: Breakthroughs That Change Patients' Lives At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products, including innovative medicines and vaccines.



Philips Healthcare

222 Jacobs Street Cambridge, MA 02141 United States Phone: 978-659-3000

www.usa.philips.com

Enhance efficiency, elevate confidence – with Philips EPIQ CVx. Philips EPIQ CVx – our most advanced cardiovascular ultrasound solution ever – combines the extensive expertise of Philips with the proven quantification capabilities of TOMTEC. A host of new features and innovations will help you elevate your diagnostic confidence, optimize your workflows and enhance your imaging performance. Visit EPIQ CVx to learn more.

Pie Medical Imaging B.V.

Philipsweg 1 6227 AJ Maastricht The Netherlands Phone: +31 (0)43 328 1328 www.piemedicalimaging.com

Pie Medical Imaging develops software solutions for efficient and effective cardiac diagnostics, pre-op planning of transcatheter valve and vascular interventions and procedural guidance of percutaneous coronary interventions. A variety of imaging modalities (Echo, MRI, MSCT, X-ray) serve as input for our state-of-the-art solutions. By having close collaborations with leading physicians, hardware systems, manufacturers, and medical device companies we stay at the forefront of new developments in our field and bring you the tools needed today and tomorrow. Our solutions focus on: Diagnostics (Caas Qardia; [just released!] and Caas MR Solutions), Pre-op planning (3mensio Structural Heart and 3mensio Vascular) as well as PCI Procedural planning and guidance (Caas Workstation). Please visit www.piemedicalimaging.com for more details.





Siemens Healthineers 40 Liberty Boulevard

Malvern, PA 19355 United States Phone: 800-888-7436

https://www.siemens-healthineers.com/en-us

Siemens Healthineers AG is shaping the future of healthcare and enables healthcare providers worldwide to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, improving the patient experience, and digitalizing healthcare.

Studycast by Core Sound Imaging

5510 Six Forks Road, Suite 200 Raleigh, NC 27609 United States Phone: 919-277-0636

https://www.corestudycast.com/

Comprehensive cardiac reporting in the cloud. And so much more. The Studycast system offers an intuitive streamlined workflow with:

- Smart automation for consistent structured reporting fast
- Reliable measurement population
- Dynamic wall motion scoring
- Auto-generated clinical statements are data driven and aligned with ASE guidelines
- Anytime, anywhere access with no VPN

Trillium Technology, Inc.

317 S. Division Street, Suite 200 Ann Arbor, MI 48104 United States Phone: 734-786-3535 www.TrilTech.com

Trillium Technology, Inc. makes the SHOWCASE(R) line of medical imaging software, which is used for reading, managing, and de-identifying medical images as well as creating presentations containing medical images. Our products are cost-effective and easy to use. Our primary focus is echocardiography, but we also support XA, NM, and a range of other modalities. 30 day free trials are offered to allow evaluation of our products before making a commitment. Our viewer software is FDA cleared for diagnostic use. We've been around for over 25 years.





Ultromics

4630 Kingsgate Cascade Way Oxford Business Park South Oxford OX4 2SU England Phone: 214-843-8573

www.ultromics.com

Ultromics was founded in 2017 from the University of Oxford, and is now a global company transforming the healthcare industry through innovative AI solutions which empower clinicians to make fast, accurate decisions when diagnosing cardiovascular disease, the number one global killer.

Pamela S. Douglas, MD, FASE Research Scholar AWARD AND ENDOWMENT FUND

The Research Scholar Award is a one-year (12 months) \$75,000 scholarship given to a clinical or translational scholar in advanced cardiovascular ultrasound research.

It provides protected time and mentorship for scholars to pursue impactful research in cardiovascular ultrasound.

Applications for the 2023 funding cycle will open August 1, 2022. More details available online at **ASEFoundation.org/PamelaSDouglasResearchScholar/**

To support this award, we encourage anyone who wants echo to have a place in the future of healthcare to give a contribution.

Donations can be made online in the ASE Portal. Support the next generation of echocardiography research investigators by donating today.



Yasufumi Nagata, MD, PhD - Massachusetts General Hospital *The inaugural Pamela S. Douglas, MD, FASE Research Scholar Award Winner*

"I am deeply grateful and excited to receive the Pamela S. Douglas, MD, FASE Research Scholar Award. It will advance my career growth as an independent investigator conducting impactful echocardiography-based research."



Making a WSRLD of Difference ASEFoundation.org

THE RESEARCH AWARDS GALA

PRESENTED BY THE **ASE FOUNDATIO**

HONORING THE 2020 AND 2021 ASE AWARD WINNERS **SUNDAY, JUNE 20, 2021 / 7:00 – 8:30 PM** JOIN US IN CONGRATULATING THE STARS OF OUR GALA



Physician Lifetime Achievement Award Catherine Otto, MD, FASE University of Washington Medical Center, Seattle, WA





Cardiovascular Sonographer Distinguished Teacher Award Merri Bremer, EdD, RN, ACS, RDCS, FASE Mayo Clinic, Rochester, MN



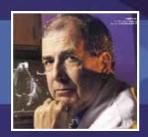
Richard Popp Excellence in Teaching Award Partho Sengupta, MBBS, MD, DM, FASE Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ



Meritorious Service Award Bonita Anderson, M.AAPL.SC, DMU, AMS, ACS, FASE The Prince Charles Hospital, Brisbane, Australia



Excellence in Teaching in Pediatrics Award Girish Shirali, MBBS, FASE Children's Mercy Hospital, Kansas City, MO



Outstanding Achievement in Perioperative Echocardiography Award Joseph Kisslo, MD, FASE Duke University Medical Center, Durham, NC



Physician Lifetime Achievement Award Robert Levine, MD, FASE Massachusetts General Hospital, Boston, MA



Meritorious Service Award Jose Banchs, MD, FASE The University of Texas MD Anderson Cancer Center, Houston, TX





ASE is the Society for Cardiovascular Ultrasound Professionals[™]. It is the largest global organization for cardiovascular ultrasound imaging serving physicians, sonographers, nurses, veterinarians, and scientists and as such is the leader and advocate, setting practice standards and guidelines for the field. The Society is committed to advancing cardiovascular ultrasound to improve lives. For more information about ASE, visit: **ASEcho.org** and follow us **@ASE360**.

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), access to CASE, ASE's online case reports journal, on-demand assistance with coding and reimbursement issues, an image library, networking opportunities, and other career resources. **You are encouraged to join ASE or renew your membership at ASEcho.org/join.**

ASE COUNCILS AND SPECIALTY INTEREST GROUPS

ASE has four councils that provide members with an opportunity to be involved with one or more subspecialty group.

- ★ Council on Pediatric and Congenital Heart Disease
- ★ Council on Perioperative Echocardiography
- ★ Council on Cardiovascular Sonography
- ★ Council on Circulation & Vascular Ultrasound

Specialty Interest Groups (SIGs) support members who have a common interest in specialized areas with growth potential in cardiovascular ultrasound. There are currently five SIGs that members can join.

- ★ Critical Care Echocardiography (CCE)
- ★ Emerging Echo Enthusiasts (E3)
- ★ Interventional Echocardiography (IE)
- ★ Neonatal Hemodynamics TnECHO (NHTS)
- ★ Cardio-Oncology

ASE STAFF

Chief Executive OfficerRobin Wiegerink, MNPL
Deputy Director Andrea Van Hoever, MSGH
Controller and Director of Finance Andrea Abramowski, CPA
Director of Research & QualitySarah Beth Bdoyan, MSPH
Educational Product SpecialistDonald Bennett
Vice President of Science
& Clinical Guidelines Lisé Blandino, MS
Vice President of Health Policy
and Member Relations Irene Butler, MPP
Foundation Manager
Digital Marketing Manager Arissa Cooper
Online Education Manager Elizabeth Foster
Office Manager Jill Gaffin
Information Systems ManagerPaulette Harmon
Meeting PlannerKelly Joy
Director of Grant Activities Cathy Kerr, CAE
SIG & Membership CoordinatorDanielle King
Vice President of Educational Activities Christina LaFuria
Meetings Department Manager Jackie Levine, CMP
Associate Manager, Member Services & FASEDallas Lyons
Senior Marketing Project ManagerTricia Meeks
Director of Publications (JASE and CASE) Deborah Meyer, MEd
Vice President of Business Development & External Relations Meredith Morovati, MBA
Director of Volunteer ActivitiesSuzanne Morris
Deputy Managing Editor (JASE, CASE) Andie Piddington, MBA
Corporate Relations ManagerJake Pope, MBA
Director, Marketing and Communications Angie Porter
Executive Assistant
Director of MembershipNatalya Read
Meeting Assistant Pam Riley
Data Quality SpecialistDeily Rodriguez, MBA
Executive Assistant (retiring June 2021)Lori Smith

CONTACT US

American Society of Echocardiography 2530 Meridian Parkway, Suite 450 Durham, NC 27713, United States

Phone: 1-919-861-5574 Email: ASE@ASEcho.org ASEcho.org ASEFoundation.org SeeMyHeart.org ASELearningHub.org OnlineJASE.com CVCaseJournal.com

OFFICERS & BOARD OF DIRECTORS 2020-2021

ASE EXECUTIVE COMMITTEE

President

Judy W. Hung, MD, FASE Massachusetts General Hospital Boston, MA

President-Elect

Raymond Stainback, MD, FASE Texas Heart Institute, Baylor St. Luke's Medical Center Houston, TX

Vice President

Stephen Little, MD, FASE Houston Methodist Houston, TX

Treasurer

Carol K. C. Mitchell, PhD, RDMS, RDCS, RVT, RT(R), ACS, FASE University of Wisconsin Madison, WI

Secretary

Matt M. Umland, ACS, RDCS, FASE Aurora Health Care Milwaukee, WI

Council Representative

Meryl Cohen, MD, FASE Children's Hospital of Philadelphia Philadelphia, PA

Immediate Past President

Madhav Swaminathan, MD, MMMCi, FASE Duke University Medical Center Durham, NC

Chief Executive Officer

Robin L. Wiegerink, MNPL American Society of Echocardiography Durham, NC

DIRECTORS

Piers Barker, MD, FASE Duke University Medical Center Durham, NC *Council on Pediatric & Congenital Heart Disease Chair*

Keith Collins, MS, RDCS, FASE Northwestern Medicine Chicago, IL *Council on Cardiovascular Sonography Chair*

Alina Nicoara, MD, FASE Duke University Medical Center Durham, NC *Council on Perioperative Echocardiography Chair*

Alan S. Pearlman, MD, FASE University of Washington Medical Center (retired) Seattle, WA *Past President Member*

Peter Rahko, MD, FASE University of Wisconsin Madison, WI

Geoffrey A. Rose, MD, FASE Sanger Heart & Vascular Institute Charlotte, NC

PAST PRESIDENTS

Benjamin F. Byrd III, MD, FASE Anthony N. DeMaria, MD, FASE Pamela S. Douglas, MD, FASE Harvey Feigenbaum, MD, FASE Julius M. Gardin, MD, FASE Linda D. Gillam, MD, FASE Walter L. Henry, MD, FASE Sanjiv Kaul, MD, FASE Sanjiv Kaul, MD, FASE Richard E. Kerber, MD, FASE Bijoy K. Khandheria, MBBS, FASE Allan L. Klein, MD, FASE Joseph A. Kisslo, MD, FASE Roberto M. Lang, MD, FASE Jonathan R. Lindner, MD, FASE Randolph P. Martin, MD, FASE Vandana Sachdev, MD, FASE National Institute of Health Bethesda, MD

Danita Sanborn, MD, FASE Massachusetts General Hospital Boston, MA

Jennifer Schaaf, BS, ACS, RDCS, FASE The Christ Hospital Health Network Cincinnati, OH

Vincent Sorrell, MD, FASE University of Kentucky Lexington, KY

Ritu Thamman, MD, FASE University of Pittsburgh Pittsburgh, PA

Bryan Wells, MD, FASE Emory Healthcare Atlanta, GA *Council on Circulation & Vascular Ultrasound*

Cathy West, MSc, DMU (Cardiac), AMS, EACVI, CHD, FASE Royal Brompton Hospital London, UK *International Representative*

Alfred F. Parisi, MD, FASE Alan S. Pearlman, MD, FASE Patricia A. Pellikka, MD, FASE Michael H. Picard, MD, FASE Richard L. Popp, MD, FASE Harry Rakowski, MD, FASE Vera H. Rigolin, MD, FASE Vera H. Rigolin, MD, FASE David J. Sahn, MD, FASE David J. Sahn, MD, FASE Madhav Swaminathan, MD, MMMCi, FASE James D. Thomas, MD, FASE Susan E. Wiegers, MD, FASE Neil J. Weissman, MD, FASE Arthur E. Weyman, MD, FASE William A. Zoghbi, MD, FASE



The ASE 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. The Foundation conducts an Annual Appeal each year soliciting individuals, companies, and foundations to support its efforts. The ASE Foundation met 95% of its \$250,000 fundraising goal for the 2020 Annual Appeal, raising \$237,565. All contributions to the Foundation received in 2020 will support the following initiatives:

- ★ Global Health Outreach
- ★ Patient Engagement
- ★ Research
- ★ Travel Grants & Scholarships

Visit the ASE Foundation virtual booth to:

- ★ Learn more about new research grants or fundraising events being hosted online, such as the Annual Research Awards Gala, the Cardiovascular Challenge and a fundraiser for the Annual Appeal.
- ★ View the photo exhibition showcasing photos of hope and resilience
- ★ Inquire about volunteer opportunities



THE CARDIOVASCULAR CHALLENGE

ASEF is hosting the very popular activity competition during the ASE 2021 Virtual Scientific Sessions. This year, we're tracking miles exercised. You can walk, bike, run, swim, etc. We encourage you to take breaks away from your computer throughout the day to get moving! Sponsored by the **Intersocietal Accreditation Commission, Lantheus Medical Imaging, Inc.** and the **National Board of Echocardiography, Inc.**, this year's competition features a lofty goal to cover the distance between our headquarters in Durham, NC, to the Washington State Convention Center in Seattle, WA, where we are hosting the 2022 Scientific Sessions next year. We have 2,828 miles to cover. The top three most active people will be announced Monday afternoon, June 21st on social media and be featured in an upcoming ASEF newsletter.

Special thanks to our 2021 Cardiovascular Challenge sponsors:







HOPE AND RESILIENCE IN ACTION PHOTO EXHIBIT

The ASE Foundation is taking a break from its traditional *Images from the Heart* photo exhibit this year to showcase photos of hope and resilience during COVID-19. It is impossible to ignore the fact that 2020 was full of tremendous challenges. This year's exhibit showcases photos of hope and resilience. Day in and day out, our members give their hearts and souls to their patients. We wanted to shine a light on them and spread hope that things will get better in the coming year. Visit the ASEF booth to view the gallery. These photos will not be for sale, however photos from prior years' exhibits will be. Contact **Foundation@ASEcho.org** with any questions.

ASEF Fundraising Raffle

Visit the ASEF Virtual Exhibit Booth to buy \$10 raffle tickets to win prizes that include copies of Catherine Otto's textbooks donated by Elsevier, a ticket to the 2022 Gala, and a table for 10 at the 2022 Gala table *(must purchase \$500 in raffle tickets to be entered into table drawing)*.

Raffle tickets are available starting Friday, June 18 through 8:30 PM on Sunday, June 20. Winners to be announced on Monday, June 21.

Saturday Night Lights Fundraiser

Saturday, June 19, 7:30-8:30 PM ET, ASEF is hosting a magical evening with an opportunity to socialize "face-to-face" with your peers via zoom followed by a 30 minute private show from magician and mentalist Gary Ferrar. Tickets are \$50 each. 100% of purchase price counts as a donation to the ASEF Annual Appeal. All attendees will be entered into a drawing for one ticket to the 2022 Research Awards Gala in Seattle.

Advance ticket purchase required before Tuesday, June 15 at 5:00 PM ET. You must be registered for the Scientific Sessions to attend this event. If you have already registered, simply click "Manage Registration" to add this event on.

Sponsored by the National Board of Echocardiography (NBE)

THANK YOU - CUMULATIVE GIVING RECOGNITION

This list recognizes cumulative giving from individual donors as of December 31, 2020. Cumulative giving levels are updated annually at the conclusion of that year's Annual Appeal. These all-star donors deserve a round of applause for their support of cardiovascular ultrasound.

FOUNDER'S CIRCLE (\$100,000+)

Jamil Tajik, MD, FASE*

LEGACY CIRCLE (\$25,000+)

Jose Banchs, MD, FASE Julius M. Gardin, MD, FASE* Edward A. Gill, MD, FASE Rebecca T. Hahn, MD, FASE Judy W. Hung, MD, FASE Sanjiv Kaul, MD, FASE* Vera H. Rigolin, MD, FASE* Geoffrey A. Rose, MD, FASE* Thomas J. Ryan, MD, FASE* Thomas J. Ryan, MD, FASE* Raymond F. Stainback, MD, FASE* Lissa Sugeng, MD, MPH, FASE James D. Thomas, MD, FASE* Susan E. Wiegers, MD, FASE William A. Zoghbi, MD, FASE*^

AMBASSADOR'S CIRCLE (\$10,000+)

David B. Adams, RCS, RDCS, FASE* Ford Ballantyne III, MD Merri L. Bremer, RN, RDCS, FASE Benjamin W. Eidem, MD, FASE Harvey Feigenbaum, MD, FASE Craig E. Fleishman, MD, FASE David H. Forst, MD, FASE* Stefanie J. Fry, MD, FASE Linda D. Gillam, MD, FASE* Brian D. Hoit, MD, FASE* Allan L. Klein, MD, FASE Peg Knoll, RDCS, FASE^ Georgeanne Lammertin, MBA, RCS, RDCS. FASE Roberto M. Lang, MD, FASE*^ Steven J. Lester, MD, FASE Jonathan R. Lindner, MD, FASE Joan C. Main, BS, RDCS, MBA, FASE Michael L. Main, MD, FASE Sunil Mankad, MD, FASE Barbara N. McCallister, RN, RDCS Fletcher A. Miller Jr., MD, FASE Sherif F. Nagueh, MD, FASE Navin C. Nanda, MD

Jae K. Oh, MD, FASE Bharatbhushan J. Patel, RDCS, RVS, RDMS, FASE Alan S. Pearlman, MD, FASE* Patricia A. Pellikka, MD, FASE Miguel A. Quiñones, MD Peter S. Rahko, MD, FASE David S. Rubenson, MD, FASE* Samuel Chi Bun Siu, MD, SM, FASE Madhav Swaminathan, MD, FASE

EDLER CIRCLE (\$5,000+)

Theodore P. Abraham, MD, FASE Federico M. Asch. MD. FASE Mark G. Berry, DO, FASE Benjamin F. Byrd III, MD, FASE^ Keith A. Collins, MS, RDCS, FASE Pamela S. Douglas, MD, FASE* Yvonne E. Gilliland, MD, FASE Steven A. Goldstein, MD Richard A. Grimm, DO, FASE Rachel Hughes-Doichev, MD, FASE Linda K. Kerber Bijoy K. Khandheria, MD, FASE* James N. Kirkpatrick, MD, FASE Howard Leong-Poi, MD, FASE Stephen H. Little, MD, FASE Judy R. Mangion, MD, FASE Randolph P. Martin, MD, FASE* Marti L. McCulloch, MBA, BS, RDCS, FASE* Sharon L. Mulvagh, MD, FASE*

Tasneem Z. Nagvi, MD, FASE Alina Nicoara, MD, FASE David A. Orsinelli, MD, FASE Maryellen H. Orsinelli, RN, RDCS, FASE Michael H. Picard, MD, FASE* Stephen G. Sawada, MD^ Marielle Scherrer-Crosbie, MD, PhD, FASE James B. Seward, MD, FASE* Douglas C. Shook, MD, FASE Nikolaos J. Skubas, MD, FASE Vincent L. Sorrell, MD, FASE Cynthia Taub, MD, FASE Ritu Thamman, MD, FASE Melissa Wasserman, RDCS, RCCS, FASE Kevin Wei, MD, FASE Richard L. Weiss, MD, FASE* Neil J. Weissman, MD, FASE*

David H. Wiener, MD, FASE

DOPPLER CIRCLE (\$1,000+)

Michael Adams, RDCS (AE, PE), FASE on behalf of the Greater Houston Society of Echo-Vascular Deborah A. Agler, RCT, RDCS, FASE Nausheen Akhter, MD, FASE Carolyn A. Altman, MD, FASE Devendra K. Amin, MD Bonita A. Anderson, M.APPL, SC, DMU, AMS, ACS, FASE, FASA Jayashri R. Aragam, MD, FASE Basant Arya, MD, FACC, FASE Dennis G. Atherton, RDCS, RCT, RRT, FASE Gerard P. Aurigemma, MD, FASE Piers C. A. Barker, MD, FASE Holly C. Bazarnick, RDCS* J. Todd Belcik, BS, RCS, RDCS, FASE^ Marek Belohlavek, MD, PhD, FASE Michelle Bierig, MPH, RDCS, FASE Kristen L. Billick BS, ACS, RDCS (AE, PE). FASE Elizabeth A. Bisinov, MD, FASE Daniel G. Blanchard, MD, FASE Lori Blauwet, MD, FASE Michael J. Boland, MD Bruce A. Bollen, MD Paul F. Braum, BS, RDCS, RCS, RVT, RVS, ACS, FASE Juan-Carlos Brenes, MD, FASE Barry B. Canaday, MS, RN, RDCS, RCS, FASE Hollie D. Carron, RDCS, FASE Sant Chatwal Frederick C. Cobey, MD, FASE Meryl S. Cohen, MD, FASE Mary C. Corretti, MD, FASE Deborah J. Creighton, RDCS, RVT, FASE Linda J. Crouse, MD* Jeanne M. DeCara, MD, FASE Anthony N. DeMaria, MD, FASE* John M. Dent, MD, FASE Manu and Rama Desai Milind Y. Desai, MD Mary Alice Dilday Teri Dittrich, RDCS, FASE Daniel H. Drake, MD Jean G. Dumesnil, MD, FASE Sidney K. Edelman, PhD* Jens Eichhorn, MD, PhD, FASE Robert D. Elgar, DO Sibel Enar, MD, FASE Gregory J. Ensing, MD, FASE William H. Fabian, MD Dali Fan, MD, PhD, FASE Alan Finley, MD, FASE

Annitta J. Flinn, BA, RDCS, FASE* Rafael A. Flores, RVT, RDCS* Michael C. Foster, RCS, RDCS, FASE Benjamin H. Freed, MD, FASE William K. Freeman, MD, FASE Peter C. Frommelt, MD, FASE Enrique Garcia-Sayan, MD, FASE, FACC Edwards F. Gibbons, MD, FASE George Gibson, MD Frederic Ginsberg Kathryn E. Glas, MD, FASE John Gorcsan, III, MD, FASE* Beverly L. Gorman, RDCS Frank J. Green, MD Joy D. Guthrie, PhD, ACS, RDMS, RDCS, RVT. FASE Ken A. Hahn, MD, FASE* Kathleen A. Harper, DO* Jeff Hill, BS, RDCS, FASE Kenneth D. Horton, RCS, RDCS, FASE^ Helen M. Hunt, MA* Wael A. Jaber, MD Cynthia Jones Barry L. Karon, MD, FASE Alan S. Katz. MD. FASE Richard E. Kerber, MD, FASE* Mary Etta King, MD, FASE Smadar Kort, MD, FASE Joe Kreeger, RCCS, RDCS, FASE Itzhak Kronzon, MD, FASE Karla M. Kurrelmeyer, MD, FASE Oi Ling B. Kwan, BS, RDCS, FASE Arthur J. Labovitz, MD, FASE Wyman W. Lai, MD, MPH, FASE Elizabeth Le, MD, FASE Mark P. Lebeis, MD* Stamatios Lerakis, MD, FASE* Robert A. Levine, MD* Jennifer E. Liu, MD, FASE Leo Lopez, MD, FASE G. Burkhard Mackensen, MD, PhD, FASE Richard C. Madlon-Kay, MD* Majesh Makan, MD, FASE Domenic Marini, MD* Jane E. Marshall, BS, RDCS, FASE* Susan A. Mayer, MD, FASE David McCarty, MBBCh Carlene A. McClanahan, RDCS, FASE Elizabeth F. McIlwain, MHS, RDCS, RCS, FASE Rick Meece, ACS, RDCS, RCIS, FASE David K. Millward, MD* Douglas Misch, RCIS, RCS, RDCS, RRT Carol Mitchell, PhD, RDMS, RDCS, RVT, RVT, RT(R), FASE

THANK YOU - CUMULATIVE GIVING RECOGNITION

Victor Mor-Avi, PhD, FASE Bernhard Mumm Brad I. Munt. MD* Raymond R. Musarra, RDCS, RCS, FASE Vuvisile Nkomo, MD Charles Nyman, MBBCH Joan J. Olson, BS, RDCS, RVT, FASE Roger C. On, MD Catherine M. Otto, MD* Felix L. Oviasu, MD Natesa G. Pandian, MD Alfred F. Parisi, MD, FASE* Margaret M. Park, BS, RDCS, RVT, FASE Matthew Parker, MD Dilip Patel Purnima Patel Jaydev Patel, on behalf of the Patel Family Foundation, Pravin Patil, MD, FASE Andy Pellett, PhD, RCS, RDCS, FASE Julio E. Perez, MD, FASE Sue D. Phillip, RCS, FASE Sabrina D. Phillips, MD, FASE Sorin V. Pislaru, MD, PhD, FASE Juan Carlos Plana, MD, FASE Richard L. Popp, MD, FASE* Thomas R. Porter, MD, FASE Kit B. Powers, MD, FASE* Gregg S. Pressman, MD. FASE Min Pu, MD, PhD, FASE Michael D. Puchalski, MD, FASE Mohammed S. Rais, MD, FASE Harry Rakowski, MD, FASE* Scott T. Reeves, MD. FASE Rick Rigling, BS, RDCS, FASE^ Diana B. Rinkevich, MD W. Scott Robertson, MD* L. Leonardo Rodriguez, MD Steven C. Romero, MD, FASE Judy Rosenbloom, RDCS, FASE* Lawrence G. Rudski, MD, FASE Angela Saca, RVT, RCS Ritu Sachdeva, MBBS, FASE Kiran B. Sagar, MD David J. Sahn, MD, FASE* Muhamed Saric, MD, PhD, FASE Robert M. Savage, MD* Retu Saxena, MD Russell J. Schiff, MD, FASE Nelson B. Schiller, MD Partho P. Sengupta, MBBS, MD, DM, FASE Elaine A. Shea, ACS, RCS, RCCS, FASE Stanton K. Shernan, MD, FASE Takahiro Shiota, MD, FASE Teresa Slomka, MD Jeffrey F. Smallhorn, MBBS Frank C. Smith. MD. FASE* Mikel D. Smith, MD, FASE

Roman M. Sniecinski, MD, FASE Cynthia C. Spector* Jessica Spellman, MD Kirk T. Spencer, MD, FASE Shubhika Srivastava, MD, FASE Richard B. Stacey, MD, FASE Katie Jo Stauffer BS, RDCS (AE, PE, FE), FASE

J. Geoffrey Stevenson, MD, FASE* William J. Stewart, MD, FASE G. Monet Strachan, RDCS, FASE Gregory H. Tatum, MD, FASE Mark A. Taylor, MD, FASE John H. Toptine, RCS, RDCS, FASE Wendy Tsang, MD Zoltan Turi. MD Andrea M. Van Hoever, MSGH Mani A. Vannan, MBBS, FASE* Eric J. Velazquez, MD, FASE Flordeliza S. Villanueva, MD* Francis E. Wanat, MD, FASE Lin Wang, MD, MS Zuyue Wang, MD, FASE Arthur E. Weyman, MD, FASE Robin L. Wiegerink, MNPL Susan Wilansky, MD, FASE Malissa J. Wood, MD, FASE Joshua Wynne, MD, FACC, FASE Luciana T. Young, MD, FASE Ren Zhang, MD Qiong Zhao, MD, PhD, FASE Karen G. Zimmerman, BS, ACS, RDCS, RVT. FASE

PRESIDENT'S CIRCLE (\$500+)

Harry Acquatella, MD, FASE Abbas K. Ali, MD, RDCS, FASE William J. Alt, MD Solomon Aronson, MD, MBA* Rolf Baumann Judith A. Becker, MD Alvin S. Blaustein, MD Eric L. Bonno. MD Joan E. Briller, MD, FACC, FASE Thomas M. Brown, Jr., MD Donica U. Bryant, BS, RDCS Dan J. Carlile, RDCS, FASE* Michael Chan, MD* Kent Chastain, MD* Namsik Chung, MD, FASE Craig B. Clark, DO, FASE Sheela Pai Cole, MD, FASE Patrick Coon, RCCS, RDCS, FASE Timothy M. Cordes, MD Jacob P. Dal-Bianco, MD, FASE Ranlev M. Desir. MD*

Holly D. Diglio, RCS, FASE Hisham Dokainish, MD, FASE John C. Drow, RTR, RVS, RDCS, FASE* Michael Duggan, MD, FASE Norman S. Eshoo, MD Luiz Egberto Scavone Ferlante, MD Brian Fey, BA, RDCS (AE/PE), ACS, FASE Mark K. Friedberg, MD, FASE Volker Gerling, MD Suzanne Golz, MS, RDCS Mardi Gomberg Aasha S. Gopal, MD, FASE Martha Grogan, MD Yuchi Han, MD, MMSc, FASE Colleen Harrington, MD Thomas E. Harris, RDCS Andrew M. Hauser, MD, FASE* Karen Helfinstine ACS, RCS, RDCS, FASE Donna D. Hendeles, RCVT, RCS, FASE* Sydni Hennemann, BS, RDCS, FASE Jose E. Herrera, MD* David H. Hsi, MD, FASE Langi Hua, RDCS (AE/PE/FE), MS, FASE David J. Hur, MD Jill B Inafuku, BS, RDCS, RDMS, FASE Howard W. Jackson, Jr., BS, RDCS Farid Jadbabaie Kishor Y. Joshi, AIA Madhavi Kadiyala, MD, FASE William E. Katz, MD, FASE Martin G. Keane, MD, FASE Andrew M. Keller, MD. FASE Brenda Khadije Thomas R. Kimball, MD, FASE Richard A. Kirkpatrick, MD* Joseph A. Kisslo, MD, FASE* Kyle W. Klarich, MD, FASE Berthold Klas H. Helen Ko, BS, ACS, RDMS, RDCS, RCCS, FASE John P. Kovalchin, MD, FASE Jun Kwan, MD* Christina LaFuria Paula Medrano Lara, RDCS David B. Lieb, MD, FASE* Sheldon E. Litwin, MD, FASE Do Doan Loi, MD Helga Lombardo, RDCS, FASE Juan C. Lopez-Mattei, MD, FASE George K. Lui, MD, FASE Anthony Magalski, MD, FASE Kameswari Maganti Sue Maisey, MBA, RDCS, RCS, FASE Rekha Mankad, MD, FASE Jonathan B. Mark, MD Wilson Mathias, Jr., MD, PhD, FASE David J. Mehlman, MD. FASE Jennifer H. Mercandetti, RDCS, ACS, FASE Debbie R. Meyer Issam A. Mikati, MD, FASE L. LuAnn Minich. MD. FASE Anita J. Moon-Grady, MD, FASE Kathleen A. Munson, RDCS, RVT, RDMS Dakshina R. Murthy, MD, FASE Vijay Nambi, MD, FASE Alireza Nazeri, MD* Ugo N. Okereke, MD Richard A. Palma, BS, RDCS, RCS, ACS, FASE Ira A. Parness, MD. FASE David Parra, MD, FASE Amit R. Patel, MD Avan R. Patel, MD, FASE Hitesh Patel Kunal Patel Philip J. Patel, MD, FASE Riti Patel, MD, FASE Maria A. Pernetz, RDCS, RVT, FASE Dermot Phelan, MD, PhD, FASE Kian-Keong Poh, MBBChir, FASE Angie Porter Suzanne Poston, RDCS, FASE Rhonda Price Marilyn F. Riley, RDCS Jose R. Rivera Del Rio, MD, FASE Brad J. Roberts, RCS, FASE Veronika M. Rodriguez, RDCS, FASE Jack Rychik, MD Lucy Safi, DO, FASE Thriveni Sanagala, MD, FASE Danita M. Yoerger Sanborn, MD, MMSc, FASE Liza Y. Sanchez, RCS, FASE Gregory M. Scalia, MBBS, FASE Jack S. Shanewise, MD, FASE* Giulia L. Sheftel, MD, FASE Anne Sherman, JD Girish Shirali, MBBS, FASE David I. Silverman, MD, FASE Norman H. Silverman, MD, FASE* Binov K. Singh, MD* Aldona M. Siwinska, MD Robert A. Skotnicki, DO, FASE Timothy C. Slesnick, MD, FASE Michael Smith, MD, FASE Neha Soni-Patel, BS, RDCS, FASE Brian Soriano, MD, FASE Nidhish Tiwari, MD, FASE, FACC, FACP Robert L. Wade, MD* Alan D. Waggoner, MHS, RDCS* Rex J. Winters, MD Tom Wolk Jian Zhang

2020 ANNUAL APPEAL DONORS

The ASE Foundation thanks the following investors for their demonstrated leadership and generous support in 2020. This list reflects all gifts of \$50 or more made from January 1 through December 31, 2020.

HERO INVESTORS (\$1500+)

Theodore Abraham, MD, FASE Ford Ballantvne, III, MD Jose Banchs, MD, FASE* Merri Bremer, EdD, RN, ACS, RDCS, FASE Sidney Edelman Benjamin Eidem, MD, FASE Edward Gill, MD, FASE Judy Hung, MD, FASE Peg Knoll, RDCS, RCS, FASE Georgeanne Lammertin, MBA. RCS, RDCS, FASE Howard Leong-Poi, MD, FASE Navin Nanda, MD, FASE Bharatbhushan Patel, RDCS, RVS, RDMS, FASE Pravin Patil, MD, FASE Alan Pearlman, MD, FASE Peter Rahko, MD, FASE Vera Rigolin, MD, FASE Geoffrey Rose, MD, FASE Samuel Siu, MD, FASE Richard Stacey, MD, FASE Raymond Stainback, MD, FASE* Lissa Sugeng, MD, MPH, FASE Madhav Swaminathan, MD, FASE Ritu Thamman, MD, FASE James Thomas, MD, FASE Melissa Wasserman, RDCS, RCCS, FASE* Neil Weissman, MD, FASE Susan Wiegers, MD, FASE

VISIONARY INVESTORS (\$1000-\$1499)

Nausheen Akhter, MD, FASE William Fabian, MD, MBA, FASE Craig Fleishman, MD, FASE Julius Gardin, MD, FASE Linda Gillam, MD, MPH, FASE Yvonne Gilliland, MD, FASE Steven Goldstein, MD, FASE Sanjiv Kaul, MD, FASE Roberto Lang, MD, FASE Jennifer Liu, MD, FASE Sunil Mankad, MD, FASE* Susan Mayer, MD, FASE Alina Nicoara, MD, FASE* David Orsinelli, MD, FASE Marvellen Orsinelli, RN, RDCS, FASE Purnima Patel Nikolaos Skubas, MD, FASE* Teresa Slomka, MD Katie Jo Stauffer, BS, RDCS (AE, PE, FE), FASE Gregory Tatum, MD, FASE William Zoghbi, MD, FASE

CHAMPION INVESTORS (\$500-\$999)

David Adams, ACS, RCS, RDCS, FASE Carolyn Altman, MD, FASE Devendra Amin, MD Federico Asch, MD, FASE Piers Barker, MD, FASE Kristen Billick, BS, ACS, RDCS (AE, PE), FASE Keith Collins, MS, RDCS, FASE Jens Eichhorn, MD, PhD, FASE* David Forst, MD, FASE Peter Frommelt, MD, FASE Martha Grogan, MD Jeff Hill, BS, ACS, FASE Rachel Hughes-Doichev, MD, FASE David Hur Jonathan Lindner, MD, FASE Stephen Little, MD, FASE Joan Main, BS, RDCS, MBA, FASE* Michael Main, MD, FASE Judy Mangion, MD, FASE Rekha Mankad, MD, FASE Jane Marshall, RDCS (AE/PE),

FASE

Victor Mor-Avi, PhD, FASE Sharon Mulvagh, MD, FASE Jae K. Oh, MD, FASE Joan Olson, BS, RDCS, RVT, FASE Matthew Parker, MD, FASE Patricia Pellikka, MD, FASE Dermot Phelan, MD, PhD, FASE Kian-Keong Poh, MBBChir, FASE Miguel Quinones, MD, FASE Harry Rakowski, MD, FASE Anne Sherman, JD Girish Shirali, MBBS, FASE Vincent Sorrell, MD, FASE David Wiener, MD, FASE

PATRON INVESTORS (\$100-\$499)

Bonita Anderson, M.APPL.SC, DMU, AMS, ACS, FASE Jayashri Aragam, MD, FASE Sergio Barros-Gomes, MD Marek Belohlavek, MD, PhD, FASE Daniel Blanchard, MD, FASE Paul Braum, BS, RDCS, RCS, RVT, RVS, ACS, FASE Michael Brook, MD, FASE Leslie Brookfield, MD Sujatha Buddhe, MD, FASE Egle Burdulis, RDCS, FASE Pamela Burgess, ACS, BS, RDCS, RDMS, RVT, FASE Benjamin Byrd, III, MD, FASE Barry Canaday, MS, RN, RDCS, RCS, FASE Connie Casey Frederick Cobey, MD, FASE Meryl Cohen, MD, FASE Patrick Collier, MD, PhD, FASE Tvrone Collins, MD Mary Corretti, MD, FASE Nancy Cutler, MD, FASE Jacob Dal-Bianco, MD, FASE Lea Anne Dantin, RCVT, RDCS, FASE Ashlee Davis, BS, ACS, RDCS, FASE

Anthony DeMaria, MD, FASE Holly Diglio, RCS, FASE Pamela Douglas, MD, FASE David Dudzinski, MD, FASE Michael Duggan, MD, FASE* Sibel Enar, MD, FASE Gregory Ensing, MD, FASE Abimbola Faloye, MD, FASE Nadeen Faza, MD Daniel Forsha, MD, MCS, FASE Greg Frary, BS, RDCS, FASE Benjamin Freed, MD, FASE Enrique Garcia-Sayan, MD, FASE Ruchira Garg Beverly Gorman, RDCS* Richard Grimm, DO, FASE Joy Guthrie, PhD, ACS, RDMS, RDCS, RVT, FASE Pedro Gutierrez-Fajardo, MD, PhD, FASE Rebecca Hahn, MD, FASE Yuchi Han, MD, MMSc, FASE Allison Hays, MD, FASE Karen Helfinstine, ACS, RCS, RDCS, FASE* McKenzie Hollon, MD, FASE David Hsi, MD, FASE Langi Hua, ACS, APCA, RDCS (AE/ PE/FE), FASE Sarah Hull Helen Hunt, MA Jill Inafuku, BS, RDCS, RDMS, FASE Wael Jaber, MD, FASE Renuka Jain, MD, FASE Madeline Jankowski, BS, RDCS, FASE Pei-Ni Jone, MD, FASE James and Ellen Kelleher Noreen Kelly, MD, MBA, FASE Sheila Klassen, MD Allan Klein, MD, FASE Smadar Kort, MD, FASE John Kovalchin, MD, FASE Joe Kreeger, ACS, RCCS, RDCS, FASE

2020 ANNUAL APPEAL DONORS

Eric Kruse, BS, ACS, RDCS, RVT, FASE Wyman Lai, MD, MPH, MBA, FASE Steve Leung, MD, FASE Mark Lewin, MD, FASE Leo Lopez, MD, FASE Maureen Lowery, MD Jimmy Lu, MD, FASE George Lui, MD, FASE S. Allen Luis, MD, FASE G. Burkhard Mackensen, MD, PhD. FASE* Jose Donato Magno, MD, FASE Randolph Martin, MD, FASE Shiraz Maskatia, MD, FASE Carlene McClanahan, RDCS (AE/ PE) FASE Anuj Mediratta, MD, FASE Debbie Meyer* Erin Michos, MD, MHS, FASE Douglas Misch, RCIS, RCS, RDCS, RRT* Carol Mitchell, PhD, RDMS, RDCS, RVT, RT(R), ACS, FASE G. Wayne Moore, BSC, MBA, FASE Raymond Musarra, BSAS, ACS, RDCS, RCS, FASE* Tasneem Nagvi, MD, FASE Akhil Narang, MD, FASE Charles Nyman, MBBCH Margaret Park, BS, ACS, RDCS, RVT, FASE David Parra, MD, FASE Anitha Parthiban, MD, FASE Sanjay Patel Hina Patel Kunal Patel Nelangi Pinto, MD, FASE Richard Popp, MD, FASE Gregg Pressman, MD, FASE Beth Printz, MD, PhD, FASE Michael Quartermain, MD, FASE

Steven Romero, MD, FASE Judy Rosenbloom, RDCS, FASE David Rubenson, MD, FASE Thomas Ryan, MD, FASE Ritu Sachdeva, MBBS, FASE Lucy Safi, DO, FASE Nazmi Said, B.Sc, RCTA, RDCS, FASE Danita Sanborn, MD, MMSc, FASE Gary Satou, MD, FASE Stephen Sawada, MD, FASE Elif Seda Selamet Tierney, MD, FASE Sangeeta Shah, MD, FASE Elaine Shea, ACS, RCS, RCCS, FASE Timothy Slesnick, MD, FASE Michael Smith, MD, FASE Neha Soni-Patel, BS, RDCS, RCCS, FASE Brian Soriano, MD, FASE* Shubhika Srivastava, MD, FASE Merrill Stewart, MD G. Monet Strachan, ACS, RDCS, FASE Jordan Strom, MD, MSc, FASE Mark Taylor, MD, FASE Jeremy Thaden, MD Wendy Tsang, MD Andrea Van Hoever, MSGH Lin Wang, MD, MS, FASE Colin Watanabe, MD, FASE Kevin Wei, MD, FASE* Cathy West, MSc, AMS, FASE Susan Wilansky, MD, FASE Kanoe Williams Tom Wolk Neeraja Yedlapati, MD, MBBS, FASE Luciana Young, MD, FASE Adel Younoszai, MD, FASE

FRIEND INVESTORS (\$15-\$99)**

Deborah Agler, ACS, VCTT, RDCS, FASE Mustafa Bapumia William Border, MB, ChB, MPH, FASE Daniel Bourgue, MS, RCS, FASE Renee Bullock-Palmer, MD, FASE Mary Carmody Arissa Cooper Mary Alice Dilday Homeyar Dinshaw Mary Donofrio, MD, FASE Adam Dorfman, MD, FASE Lilibeth Fermin, MD, MBA John Ferullo Nowell Fine, MD, MS, FASE Michael Foster, ACS, FASE* Raymond Garcia, RDCS, FASE David Goodwin, M.Ed, RDCS Garick Hill, MD, FASE Elizabeth Le, MD, FASE Catherine Lennon, AAS George Litman, MD Jill Mazal, RDCS, RDMS, BS Angelia McCaskill, RDCS, FASE Anita Moon-Grady, MD, FASE Ahmet Oktay, MD Andy Pellett, PhD, RDCS, FASE Andie Piddington* Beth Puha, RN, RDCS, FASE Karl Richardson, MD Jose Rivero, MD Andrew Rosenblatt, MD Kathleen Rosendahl-Garcia, BS, RVT, RDCS, FASE Daniel Saurers, RCS, RDCS, FASE Sanjiv Shah Richard Sheu, MD, FASE Barbara Sidoti

Jina Sohn, MD Lloyd Tani, MD, FASE Nidhish Tiwari, MD, FASE Maureen Tonge, RDCS Barb Tria Atul Trivedi, MD Hemavathi Umamaheswar, MA, RDCS, FASE Thomas Van Houten, MPH, ACS, RDCS, FASE G. Wesley Vick, III, MD, PhD Matthew Vorsanger, MD, RPVI, FASE Jillian Wei, RDCS, RDMS, RVT Robin Wiegerink, MNPL Megan Yamat, RDCS, RCS, ACS, FASE Katherine Zeigler, BS, RRT, RDCS, FASE

*Denotes an ASE Foundation sustainer

**This list reflects all donations of \$50 or more made to the 2020 Annual Appeal between 1/1/2020 and 12/31/2020

We strive to be accurate and complete, but errors occasionally occur. Your assistance in bringing any inaccuracies to our attention is greatly appreciated.



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 the 153 new FASE members who achieved this designation between June 2020 and April 2021. For a complete list of FASE, please visit **SeeMyHeart.org**. Learn more about applying for FASE at **ASEcho.org/FASE**.

NEW FASE RECIPIENTS

June 2020 - April 2021

Samah Ismael Abohamr, MD, M.Sc., MBBch, FASE Tareg Abu Sharifeh, MD, FASE Luis C. Afonso, MD, FASE Ibraheem Humaid Alharbi, MD, FASE Sinan Alo, DO, FASE Amro Alsaid, MD, FASE Sethabel Levi Alvarado, MD, FASE Faisal D. Arain, MBBS, MD, FASE John Joseph Wilbur Asheld III, DO, FASE Wilbur Jeremiah Asheld, DO, FASE Ravi Ashwath, MD, MBBS, FASE Au Shek Yin, MBBS, FASE Melissa Catherine Bailey, BS, RDCS, RDMS, RVT, FASE Dorsey Ballow, RDCS, RDMS, FASE Elvera L. Baron, MD PhD, FASE Brenton Scott Bauer, MD, FASE Kiran Belani, MD, FASE Jean Beresian, MD, FASE Sujatha P. Bhandary, MD, FASE Nomita Bhawal, MD, FASE Caroline Bleakley, MD, FASE Michael L. Boisen, MD, FASE Laura T. Boone, BS, RDCS, RVT, RDMS, RT(R), FASE Paula Jane Boucaut, FASE Christopher Brockway, MS, RDCS, FASE Dale Burkett, MD, FASE Elvis Cami, MD, FASE Sarah Ann Chambers Gurson, MD, FASE Sindu Chandran, MD, FASE Anne D. Cherry, MD, FASE

Kashyap B. Choksi, MD, PhD, RPVI, FASE John Landon Colquitt, MD, FASE Jacqueline Suk Danik, MD, DrPH, FASE Garrett J. De Francis, BS, RDCS, FASE Lorenzo De Marchi, MD, FASE Doreen DeFaria Yeh, MD, FASE John B. Dickey, MD, FASE Chandler M. Dixon, RDCS, FASE Allyson Leigh Doucet, BS, RDCS (AE, PE), FASE Colin A. Dunbar II, RDCS (AE, PE, FE), FASE Mary Frances Duncan, RDCS, FASE Dan A. Dyar, MA, RDCS, FASE Elliott Elias, MD, MPH, FASE Hayley Engstrom, ACS, RDCS, FASE Kristie Faust-Gomez, BS, ACS, RDCS, RVT, RT(R), FASE Nadeen N. Faza, MD, FASE Jared William Feinman, MD, FASE Marie Ficociello, MA, RDCS, FASE Francis D. Fleeson III, RCS, EMT, FASE Michael Bernard Foth, CRCS, RCS, RDCS, FASE Hetal A. Gandhi, MD, FASE Raktim Kumar Ghosh, MD, FASE Yasmeen Golzar, MD, FASE David G. Goodwin, M.Ed, RDCS, FASE Suzette Blondelle Graham-Hill, MD, FASE Theresa Green, RDCS, FASE Ihab Hamzeh, MD, FASE Sachiyo Igata Hang, ACS, PhD, RDCS, FASE Chari YT Hart, MD, FASE Sonia A. Henry, MD, FASE Katherine Holtmann, FASE Kimberly Howard-Quijano, MD, MS, FASE Lisa W. Howley, MD, FASE Gary Huang, MD, FASE Runging Huang, Ph.D, FASE Rhonda Smith-Hudson, MS, RDCS, FASE Melissa Ianitelli, DO, RPVI, FASE AKM Monwarul Islam, MD, FASE Sabrina Islam, MD, MPH, FASE James Abel Iwaz, MD, FASE David W. Jantzen III, MD, FASE Jeff Jewell, BS, RDCS (AE, PE), FASE

Atul Karande, MBBS, MD, FASE BethRae King, BS, RDCS, FASE Menhel Kinno, MD, MPH, FASE Anuradha Kolluru MD, FASE Srikanth Koneru, MD, FASE Wendy Choua Yang, RDCS, FASE Dinesh J. Kurian, MD. MBA, FASE Jenny Kwak, MD, FASE Nitin Madan, MD, FASE Erin Janelle Madriago, MD, FASE Arupratan Maiti, MBBS, MD, FASE Abdullah Al Shafi Majumder, MBBS, D Card, MD, FASE Yasdet Maldonado, MD, MMM, FASE Jill Gwynn Mazal, BS, RDCS, RDMS, FASE Michael Vincent McConnell, MD, MSEE, FASE Patrick McNamara, MB, BCH, BAO, DCH, MSc (Paeds), MRCP, MRCPCH, FASE Scott H. McQuilkin, DO, MHPE, FASE Jacob Bradley Meers, MD, FASE Carolina Melendez Rodriguez, RDCS, RCS, FASE Arunima Misra, MD, FASE Jay Mohan, DO, RPVI, FASE Shaine A. Morris, MD, MPH, FASE Candice Morrissey, MD, MSPH, FASE Mayooran Namasivayam, MBBS, BSc(Med), PhD, FASE Robert Nampi, MD, FASE Akhil Narang, MD, FASE Peter J. Neuburger, MD, FASE Marie J Owens, RDCS, RVT, FASE Nirvik Pal, MD, MBBS, FASE Pablo Perez d'Empaire, MD, FASE Atif Nazier Qasim, MD, MSCE, FASE Rupesh Ranjan, MD, FASE Nina Rashedi, MD, FASE Sahadev T. Reddy, MD, FASE Ellen Richter, MD, FASE Alan Frederick Riley, MD, FASE Albert R. Robinson III, MD, FASE Lisa Q. Rong, MD, FASE Shiva Sale, MD, FASE Pedro D. Salinas, MD, FASE Yamuna Sanil, MD, FASE Christine Saunders, MHA, RDCS, RDMS, RVT, FASE

Madeline Schiminger, BS, RDCS (AE, PE), FASE Karen Scholz, BAPPSci, GradDip(Cardiac Ultrasound), AMS, FASE Jeffrey Mohl Scott, DO, EDIC, FASE Rahul Vijaykumar Shabadi, MBBS, MD, FASE Muhammad Azam Shah, MBBS, SBE, CBCCT, FASE Archit Sharma, MD, MBA, FASE Saurabh Sharma, MD, FASE Kenneth Shelton, MD, FASE Michael Sills, MD, Msc, FACC, FASE Mark Murdoch Smith, MD, FASE Christopher J. Statile, MD, FASE Stephanie N. Stewart, MS, RDCS, RVT, FASE Miranda Sturgeon, RCS, RCCS, FASE Devorah M. Tavlor, RDCS, RVT, FASE Jeremy Thaden, MD, FASE Babitha Thampinathan, CRCS, RDCS, FASE Christine Marie Thomson, BS, FASE Jennifer Kaylene Tresness, RDCS, RDMS, RVT, FASE Agnieszka Trzcinka, MD, FASE Justin W. Ulrich, MBA, ACS, RCS, RDCS, RVT, RCIS, CCT, FASE Bharathi Upadhya, MD, FASE Lisa Vargas, RDCS, FASE Mani Vindhya, MD, FASE Niranjan Waje, MD, FASE Stephanie Ann Wells, BS, RDCS, RVT, RDMS, FASE Jacqueline Wheatley, DMS, RDCS (PE, AE), FASE Kobina A. Wilmot, MD, MSc, FASE Justin W. Wilson, MD, FASE Chun Pong Wong, MD, CCRP, FASE Alicia Wright, RCS, FASE Isaac Y. Wu, MD, FASE Pedro Gavino Yanac Chavez, MD, FASE Neeraja Yedlapati, MD, FASE David Hiroshi Yoshioka Morote, MD, FASE Michael Young, RDCS, RVT, AAS, FASE Nayer Youssef, MD, MSc, FASE Li Zhang, MD, PhD, FASE Matthew Jason Zimmerman, MD, MSPH, FASE Jonathan Kramer Zoller, MD, FASE

GOOD COMPANIES. GOOD WORKS. ASE would like to thank our Industry Roundtable members.

Don't forget to visit our Industry Roundtable Partners' virtual booths at ASE 2021 Virtual Experience.





🖑 Bristol Myers Squibb























American Society of Echocardiography

ASE2022 Sound waves in seattle: Connecting the world

SAVE THE DATE June 10-13, 2022 Seattle, WA

33rd Annual Scientific Sessions
Washington State Convention Center
#ASE2022 • ASEScientificSessions.org