

American Society of Echocardiography

ASE2021

Virtual Experience

A REVOLUTION
IN CARDIOVASCULAR IMAGING

32nd Annual
Scientific Sessions

June 18-21, 2021

#ASE2021

ASEScientificSessions.org

FINAL PROGRAM

DEFINITY®

VIAL
FOR (Perflutren Lipid Microsphere)
INJECTABLE SUSPENSION

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.

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References:

1. 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. 6. Kurt M et al. *J Am Coll Cardiol.* 2009;53(9):802-810. 7. Embase and Medline Search, May 2018.

DEFINITY

VIAL FOR (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.

DOSE 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.

Infusion

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

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

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

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

N=Sample size 1716 subjects who received activated DEFINITY

n=Number of subjects reporting at least one Adverse Reaction

Other adverse reactions that occurred in ≤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>

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WELCOME MESSAGE

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!



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Virtual Experience

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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 (S)

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



BASIC/INTERMEDIATE



INTERMEDIATE



INTERMEDIATE/ADVANCED



ADVANCED



BASIC/INTERMEDIATE/ADVANCED

CLAIMING CME CREDIT

To claim your CME credit for the 32nd Annual ASE Scientific Sessions, please visit [ASEScientificSessions.org/CME](https://www.ase-scientificsessions.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, 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 guidelines 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:

1. 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.
4. 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, intra-procedural, and post-procedural care of patients in the operating room and catheterization laboratory.
10. 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 = 17

June 19, 2021 = 11.5

June 20, 2021 = 17

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



ASE AMERICAN SOCIETY OF
ECHOCARDIOGRAPHY
Sound Saves Lives

ASE 2021 FACULTY DISCLOSURE INFORMATION

Aday, A.....	OptumCare (2)	Qasim, A.....	Siemens (2); Medtronic (4); Biotelemetry (2)
Anderson, B.....	Wolters Kluwer (6)	Rodríguez-Zanella, H.....	GE Healthcare (1); Phillips (1); Siemens (1)
Asch, F.....	Ultromics (4); Caption Health (4); GE (4)	Ronderos, R.....	Siemens Healthineers (2); Philips Medical Systems (1)
Barros Pena, J.....	Sanofi (2)	Safi, L.....	Abbott Medical (1)
Bax, J.....	Edwards Lifesciences, Abbott (1); Edwards Lifesciences, Abbott, Boston Scientific, Medtronic, Biotronik, GE Healthcare, Bayer (1)	Saric, M.....	Abbott (1); Boston Scientific (1); Philips (1)
Bennett, C.....	Lantheus (8)	Scalia, G.....	Proctor (8); Abbott
Billick, K.....	Lantheus Medical Imaging (8); Caption Health (2)	Sengupta, P.....	Ultromics (2); Kencor health (2); RCE technologies (2)
Bourque, D.....	Lantheus (1)	Senior, R.....	Bracco (1); Lantheus (1); Philips (1)
Chareonthaitawee, P.....	UpToDate (6); Medtrace (2); GE HealthCare, Bioclinica (2)	Shah, S.....	Corvia (4); Axon Therapies (2); Novo Nordisk (2)
Cowger, J.....	Abbott, Inc (8); Medtronic (8)	Shamoun, F.....	Intrinsic Imaging (2)
Davis, A.....	Lantheus, ESP Ultrasound (1)	Silverton, N.....	KSCube (6)
Delgado, V.....	Abbott Vascular (1); Edwards Lifesciences (1); Medtronic (1)	Skolnick, D.....	Abbott (1)
Douglas, P.....	HeartFlow (4)	Soslow, J.....	Esperare (2)
El-Khuffash, A.....	General Electric (4)	Strasburger, J.....	Dr. Scholl Foundation, Chicago, IL (4); NIH (4)
Emani, S.....	Cheisi Pharma (2); Cellvie (3)	Strom, J.....	Edwards Lifesciences (4); Philips Healthcare (2); Northwest Imaging Forums (1)
Erba, P.....	GE (1)	Subramaniam, K.....	National Institute of Health (4); CSL Behring (4)
Fanola, C.....	Janssen (2)	Sugeng, L.....	Philips Healthcare (1); Siemens Healthineers (1); Cannon Medical (1)
Feinstein, S.....	Bracco (1); GE (1)	Thomas, J.....	Abbott, GE (4), Caption Health (1),(5)
Frye, C.....	Optison (5)	Tison, G.....	Janssen Pharmaceuticals (4); Myokardia (4); General Electric (4)
Haddad, F.....	Precordior (4)	Vainrib, A.....	Microinterventional Devices (2)
Hahn, R.....	Abbott Vascular (1),(2); Edwards Lifescience (2); Medtronic (2); Gore&Associates (2)	Vannan, M.....	Siemens (4); Abbott (1)
Horton, K.....	Caption Health (2); Lumedex (2)	Walling, S.....	Lantheus Medical Imaging (1)
Jankowski, M.....	Caption Health (2)	Wells, B.....	Canadian Institutes of Health Research (4)
Kagiyama, N.....	Philips Japan (7); ASAHI Kasei (7); InterReha (7)		
Karaa, A.....	Sanofi Genzyme (4); Takeda (former Shire) (2)		
Khalique, O.....	Abbott Structural (2); Edwards Lifescience (1)		
Kisslo, J.....	Philips Medical Systems (2); General Electric (2); Philips Medical Systems (1)		
Klein, A.....	Kiniksa (4); Sobi (2); Pfizer (2)		
Knoll, P.....	Lantheus (1); Caption Health (2)		
Kraushaar, M.....	Epsilon Imaging (1)		
Kusunose, K.....	Canon Medical Systems Corporation (4)		
Lam, C.....	Actelion, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Boston Scientific, Cytokinetics, Darma Inc., Janssen Research & Development LLC, Medscape, Merck, 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)		
Lang, R.....	Philips (1), (2); Tomtec (1); Caption Health (2)		
Lindner, J.....	Lantheus (4)		
Lubitz, S.....	Bristol-Myers Squibb / Pfizer; Bayer AG; Boehringer Ingelheim; Fitbit; IBM (4); Bristol-Myers Squibb / Pfizer; Blackstone Life Sciences (2); NIH; AHA (4)		
Mayo, P.....	Caption Health (2)		
McCartney, S.....	Humacyte (2)		
Meece, R.....	Philips Healthcare (1)		
Monaghan, M.....	Phillips Medical Systems (1)		
Nassif, M.....	Astra Zeneca, Boehringer Ingelheim (4)		
Nazer, B.....	Biosense Webster (4)		
Nikravan, S.....	Philips Inc. (2)		
Pai Cole, S.....	McGraw Hill, Medscape (6)		
Paola, P.....	GE Helathcare (1); Philogen SpA (2); Springer (6)		
Park, M.....	Lantheus Medical Imaging (1)		
Perry, R.....	GE Healthcare (1); Philips Medical (1)		
Peyvandi, S.....	National Institute of Health (4)		
Piazza, G.....	BMS/Pfizer Alliance (4); Janssen (4); Bayer (4); BSC (4)		
Porter, T.....	Lantheus (2); Philips Healthcare (4); Northwest Imaging (1)		

NO FINANCIAL RELATIONSHIP

Abraham, T; Abramowitz, S; Addetia, K; Aello- Reyes, L; Akhter, N; Albulushi, A; Altman, C; Armour, A; Arnaout, R; Arya, B; Auñón-Chancellor, S; Banchs, J; Barac, A; Barnes, B; Bella, J; Beroukhim, R; Bijmens, B; Border, W; Bremer, M; Cartoski, M; Chelliah, A; Chen, M; Chen, T; Chikwe, J; Chiu, J; 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; Donofrio, M; Dorfman, A; Dragulescu, A; Drake, D; Dudzinski, D; Edwards, N; Engstrom, H; Ermis, P; Estep, J; Fan, D; Feigenbaum, H; Fendler, T; Finley, A; Fleischman, K; Forsha, D; Fostello, S; Foster, E; Frank, L; Freud, L; Friedberg, M; Frommelt, P; Garcia-Sayan, E; Ge, B; Giesinger, R; Gill, E; Goffi, A; Goldstein, S; Grigore, A; Guile, B; Gupta, D; Habib, G; Haddad, F; Harb, S; Harper, R; Harrild, D; Harrington, C; Hathaway, Q; Henkin, S; Howard-Quijano, K; Hung, J; Hur, D; Ibáñez-Arenas, R; Ignatowski, D; Jain, R; Jone, P; Kasal, J; Kernizan, D; Khoo, N; Killen, S; Kim, E; Kim, J; Kirkpatrick, J; Kramer, C; Kreeger, J; Kripfgans, O; Kruse, E; Kusunose, K; Labovitz, A; Lam, C; Levine, B; Levy, P; Lipinski, J; Little, S; Liu, L; Lorber, R; Lowenstein, J; Lu, J; Lui, G; Mackensen, G; Main, M; Maldonado, Y; Maron, M; Martin, R; Mathias, W; Mayer, S; 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; Narang, A; Naser, J; Nees, S; Nguyen, H; Nicoara, A; Olson, J; Otto, C; Parthiban, A; Pellikka, P; Pham, D; Phelan, D; Pinto, F; Pislaru, S; Pizarro, C; Puthumana, J; Quartermain, M; Rabinowitz, D; Rakowski, H; Ramzy, D; Rathod, R; Reddy, C; Renno, M; Rigolin, V; Roemer, S; Romanowicz, J; Roscoe, A; Rose, G; Rosen, D; Rueda-de-Leon, E; Ryan, T; Sachdeva, R; Sade, L; Safi, L; Sahagún Sánchez, G; Schaaf, J; Schoenhagen, P; Shook, D; Stainback, R; Song, P; Sorrell, V; Subramaniam, K; 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; West, C; Weyman, A; Whalley, G; Williamson, L; Woo, A; Wood, M; Wright, R; Yamat, M; 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!**



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!**



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!**



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

35,000

30,000

25,000

20,000

15,000

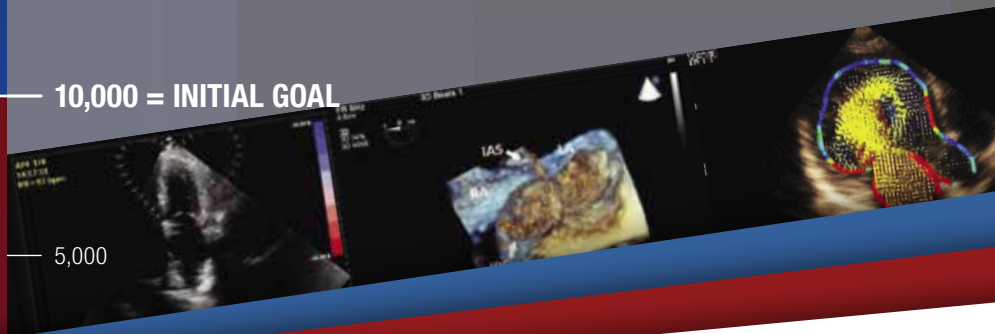
10,000 = INITIAL GOAL

5,000

The ImageGuideEcho Registry's initial goal for 2021 was to reach **10,000 ECHOS** in the Registry.

By April we had more than accomplished this noteworthy milestone with **OVER 35,000 ECHOS SUBMITTED!**

Visit the ImageGuideEcho Registry Booth at ASE 2021 to learn more about how this growth benefits the field of echo!



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

ImageGuideEcho
A module under the **ImageGuide** Registry platform



Info@ImageGuideEcho.org • ImageGuideEcho.org

SCHEDULE AT A GLANCE

FRIDAY, JUNE 18

All times are Eastern time.

EXHIBIT HALL OPEN 3:30 – 9:30 PM				
3:30 – 4:30 PM	 WELCOME TO ASE 2021 AND KEYNOTE PRESENTATION <i>THE REVOLUTION OF ECHOCARDIOGRAPHY</i> 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 <i>(ASE/EACVI Joint Session**)</i>
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 <i>(DIC-SBC Session*)</i>	 POCUS in Unstable Patients <i>(Critical Care Echo SIG Session)</i>
7:15 – 8:15 PM	 Prosthetic Valve Dysfunction	 How to Utilize Artificial Intelligence for Echocardiography <i>(ASE/JSE Joint Session**)</i>	  Evaluating and Differentiating HFpEF: Making it Real	 Troubleshooting for Current and Upcoming Structural Heart Interventions <i>(Emerging Echo Enthusiasts E3 SIG Session)</i>
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.

ADULT CONGENITAL HEART DISEASE (A)

CIRCULATION (C)

EARLY CAREER (EC)

IMAGING ESSENTIALS (E)

INNOVATION/ TECHNOLOGY (IT)

ISCHEMIA (I)

MYOCARDIUM/ FUNCTION (M)

PEDIATRIC/ CONGENITAL (PC)

PERIOPERATIVE (P)

POINT OF CARE (POC)

SPECIAL SESSIONS (S)

VALVES & STRUCTURAL HEART DISEASE (V)

● BASIC

■ BASIC/INTERMEDIATE

▲ INTERMEDIATE

◆ INTERMEDIATE/ADVANCED

◆ ADVANCED

★ BASIC/INTERMEDIATE/ADVANCED

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 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

PC Conquering COVID Together

(ASE/EACVI Joint Session)

Chairs: P. Barker, J. Marek



EACVI
European Association of
Cardiovascular Imaging

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

P 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

M 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

I Cardiomypathies 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**IT 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. Kagiya***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**M Evaluating and Differentiating HFpEF: Making it Real***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

EC 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

E Myocardial 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

PC 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 Stroke Volume 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

**I 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



GOAL ONE

ASE effectively develops strategic partnerships and funding opportunities to support standards and research in cardiovascular ultrasound.



GOAL TWO

ASE is the leader in meeting the educational needs of the cardiovascular ultrasound community.



GOAL THREE

ASE is indispensable for the development of any new cardiovascular ultrasound technology and applications.



GOAL FOUR

ASE is a growing organization and recognized as the world's leading voice in cardiovascular ultrasound.



GOAL FIVE

ASE embraces and advocates for all cardiovascular ultrasound users.



For more information, visit ASEcho.org/About-ASE.

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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 1997, 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

SATURDAY, JUNE 19

All times are Eastern time.

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 <i>Special Session with the New England Journal of Medicine</i>	 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	 New Hypertrophic Cardiomyopathy Guidelines: Updated Approach to Diagnosis and Treatment	 Adult Congenital Heart Disease I: Essentials	 Using Echocardiography to Guide the Management of Critically Sick Infants <i>(Neonatal Hemodynamics TnECHO SIG Session)</i>	 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	 WELLNESS BREAK			
4:15 – 5:15 PM	 COVID-19 Special Session	 Innovations in Technology and Cardiovascular Imaging	 Imaging Saves the Day: Complications During Transcatheter Procedures <i>(Interventional Echocardiography SIG Session)</i>	 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	VIRTUAL SOCIAL GATHERING AND COUNCIL NETWORKING SESSIONS			
7:30 – 8:30 PM	ASE FOUNDATION SATURDAY NIGHT LIGHTS <i>(This event requires a separate registration. Proceeds benefit the ASE Foundation's 2021 Annual Appeal.)</i>			

-  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.

ADULT CONGENITAL HEART DISEASE (A)	CIRCULATION (C)	EARLY CAREER (EC)	IMAGING ESSENTIALS (E)	INNOVATION/ TECHNOLOGY (IT)	ISCHEMIA (I)
MYOCARDIUM/ FUNCTION (M)	PEDIATRIC/ CONGENITAL (PC)	PERIOPERATIVE (P)	POINT OF CARE (POC)	SPECIAL SESSIONS (S)	VALVES & STRUCTURAL HEART DISEASE (V)
● BASIC	■ BASIC/INTERMEDIATE	▲ INTERMEDIATE	◆ INTERMEDIATE/ADVANCED	◆ ADVANCED	★ BASIC/INTERMEDIATE/ADVANCED

10:00 AM – 10:30 AM

S 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

★ S 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

PC 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

▲ M 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

A **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

PC **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

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

P **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

S **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. Bijmens

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

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

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SCHEDULE AT A GLANCE

SUNDAY, JUNE 20

All times are Eastern time.

EXHIBIT HALL OPEN 10:30 AM – 6:45 PM				
9:45 – 10:15 AM	TECHNOLOGY SHOWCASE: PIE MEDICAL IMAGING BV			
10:30 – 11:00 AM	 WELCOME AND 32ND ANNUAL EDLER LECTURE <i>ECHO, EQUITY, AND EMPOWERMENT: A FRAMEWORK FOR THE FUTURE</i> BY MADHAV SWAMINATHAN, MD, FASE			
11:00 AM – 12:00 PM	 Value Summit: An Insider's View of What's Happening in Washington, DC	 Imaging in Cardio-Oncology: Making it Real	 Adult Congenital Heart Disease II: Challenging Pathology	 New Frontiers in Ultrasound: POCUS and Beyond
12:15 – 1:15 PM	SCIENCE & TECHNOLOGY THEATER: ABBOTT			
12:15 – 1:15 PM	VISIT EXHIBIT HALL			
1:20 – 1:25 PM	 WELLNESS BREAK			
1:30 – 2:30 PM	 Value Summit: Maintaining Value in the Echo Lab	 Arthur E. Weyman Young Investigator's Award Competition and 22 nd Annual Feigenbaum Lecture <i>Right Heart, Right Now: The Role of 3D Echocardiography</i> by Denisa Muraru, MD	 Imaging Guide to Intervention on Atrioventricular Valves	 Myocardial Ischemia Debate: Bubbles vs. Rads
2:45 – 4:00 PM	VISIT EXHIBIT HALL			
3:00 – 4:00 PM	SCIENCE & TECHNOLOGY THEATER: GE HEALTHCARE			
4:00 – 5:00 PM	 Echo in Women by Women in Echo	 Aerospace Cardiology <i>Gardin Lecture: My Life in Space: Impact of Biologic Science</i> by Serena Auñón-Chancellor, MD, MPH	 TAVR: Still Plenty to Learn in 2021 <i>Kalmanson Lecture: Resolving Discrepancies in Aortic Stenosis</i> by Catherine Otto, MD, FASE	 The Brian Haluska Sonographer Research Award Competition
5:15 – 5:45 PM	VISIT EXHIBIT HALL			
5:15 – 5:45 PM	TECHNOLOGY SHOWCASE: PHILIPS HEALTHCARE			
5:45 – 6:45 PM	 Sound Saves Lives	 Challenges on the Right	 Play It Again Sam: Multi-Disciplinary Team Approach to Recurrent Infective Endocarditis <i>(ASE/EACVI Joint Session*)</i>	 Aortic Pathology and Complications: Don't Foul Out
7:00 – 8:30 PM	ASE FOUNDATION VIRTUAL RESEARCH AWARDS GALA INCLUDING AN ECHO GAME SHOW!			

* ASE International Alliance Partner Joint Session. (EACVI) European Association of Cardiovascular Imaging

 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.

ADULT CONGENITAL HEART DISEASE (A)

CIRCULATION (C)

EARLY CAREER (EC)

IMAGING ESSENTIALS (E)

INNOVATION/ TECHNOLOGY (IT)

ISCHEMIA (I)

MYOCARDIUM/ FUNCTION (M)

PEDIATRIC/ CONGENITAL (PC)

PERIOPERATIVE (P)

POINT OF CARE (POC)

SPECIAL SESSIONS (S)

VALVES & STRUCTURAL HEART DISEASE (V)

● BASIC

■ BASIC/INTERMEDIATE

▲ INTERMEDIATE

◆ INTERMEDIATE/ADVANCED

◆ ADVANCED

★ BASIC/INTERMEDIATE/ADVANCED

10:30 AM – 11:00 AM

★ 32nd Annual Edler Lecture

Chair: M. Main

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

**◆ 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

**◆ POCUS New 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

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

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

Recognition of Feigenbaum Lecture and Concluding Remarks
H. Feigenbaum

2:53 PM – 3:00 PM

Recognition of Competition Finalists and Winner Announcement
S. Mulvagh

1:30 PM – 2:30 PM

Imaging 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. Dragelescu

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

**I 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

I 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. Del-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

E 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

PC ⚕ Challenges on the Right

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

EC **Play It Again Sam: Multi-Disciplinary Team 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

C **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

SCHEDULE AT A GLANCE

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	■  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.

ADULT CONGENITAL HEART DISEASE (A)

CIRCULATION (C)

EARLY CAREER (EC)

IMAGING ESSENTIALS (E)

INNOVATION/TECHNOLOGY (IT)

ISCHEMIA (I)

MYOCARDIUM/FUNCTION (M)

PEDIATRIC/CONGENITAL (PC)

PERIOPERATIVE (P)

POINT OF CARE (POC)

SPECIAL SESSIONS (S)

VALVES & STRUCTURAL HEART DISEASE (V)

● BASIC

■ BASIC/INTERMEDIATE

▲ INTERMEDIATE

◆ INTERMEDIATE/ADVANCED

◆ ADVANCED

★ BASIC/INTERMEDIATE/ADVANCED

5:15 PM – 5:45 PM

**S 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

E 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

**M 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 Venous-Venous and Venous-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

**V 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

6:00 PM – 7:00 PM

P **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

I **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

M **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

7:15 PM – 8:15 PM

PC 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

P The Great Debates

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

IT 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

8:30 PM – 9:30 PM

I **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-Velazquez

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

V **Tricuspid 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.



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Sound Saves Lives



ASE2021

Virtual Experience

★ 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.

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

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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
- ★ Intraoperative 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.

American Society of Echocardiography

ASE 2021

A **REVOLUTION**
IN CARDIOVASCULAR IMAGING

Virtual Experience

32nd Annual Scientific Sessions
June 18-21, 2021

#ASE2021

ASEScientificSessions.org

Congratulations to the ASE 2021 abstract presenters!

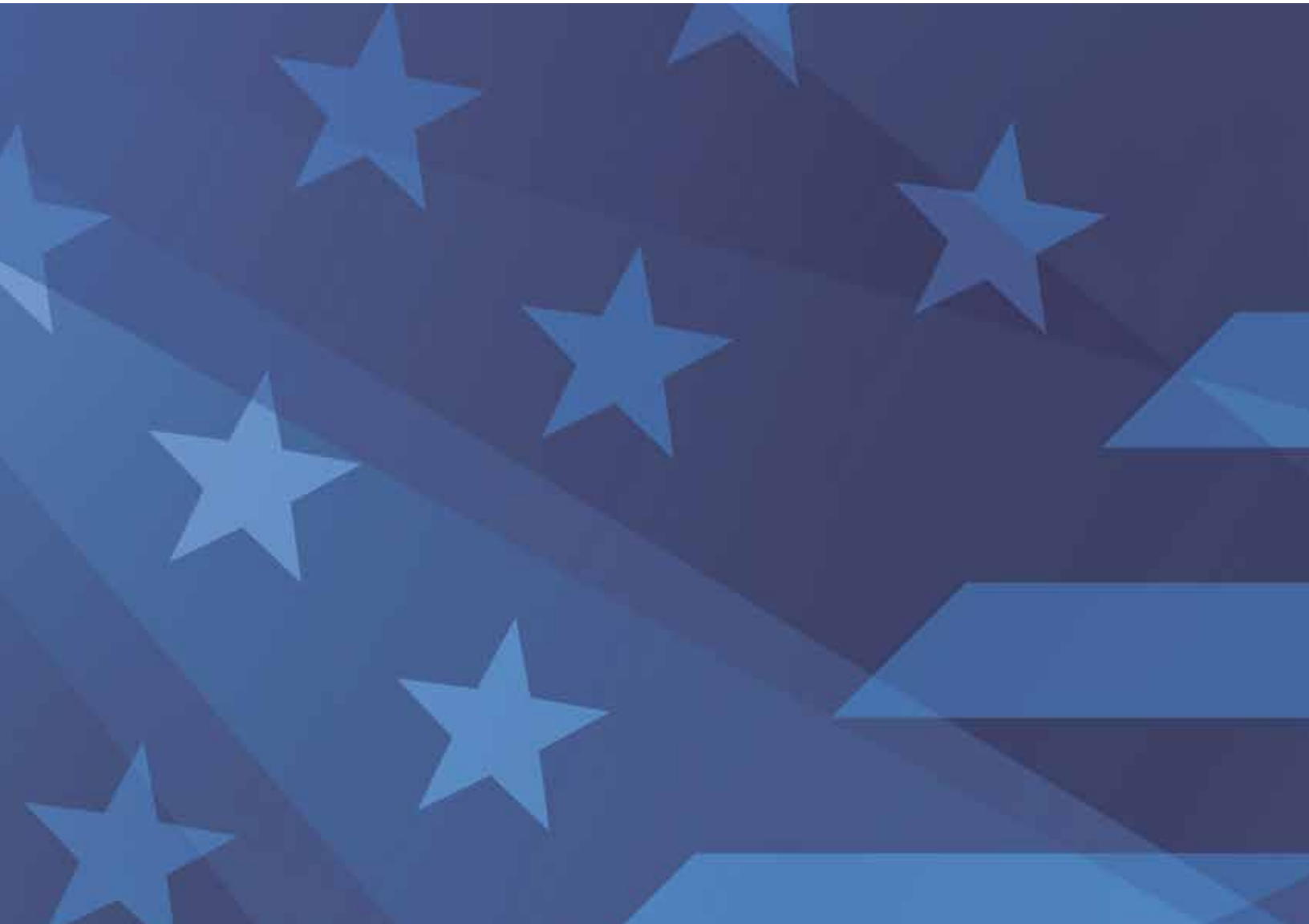
All Original Science Abstracts are online at: ASEcho.org/2021Abstracts.

SPECIAL EVENTS AND NETWORKING OPPORTUNITIES

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 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 year's 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 has 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 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.

SPECIAL EVENTS AND NETWORKING OPPORTUNITIES

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

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 Squibb

Please visit the Bristol Myers Squibb 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.

SPECIAL EVENTS AND NETWORKING OPPORTUNITIES

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 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 "Resolving Discrepancies in Aortic Stenosis."

TECHNOLOGY SHOWCASE

5:15 – 5:45 PM

Philips LAA Solution

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.

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 a "phone a friend" and "ask the audience" options in case the experts are stumped, so this is sure to be exciting and entertaining!

SPECIAL EVENTS AND NETWORKING OPPORTUNITIES

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

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 ultrasound 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 AI 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 real-world 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.

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ASE Foundation

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, Massachusetts 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 is 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, TOMTEC has driven innovations in echocardiography, and the ASE Foundation thanks them for investing in the young researchers who will continue to drive the field forward.

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;



ASE proudly recognizes our International Alliance Partners (listed alphabetically)

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**, Johns 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, WI** 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.

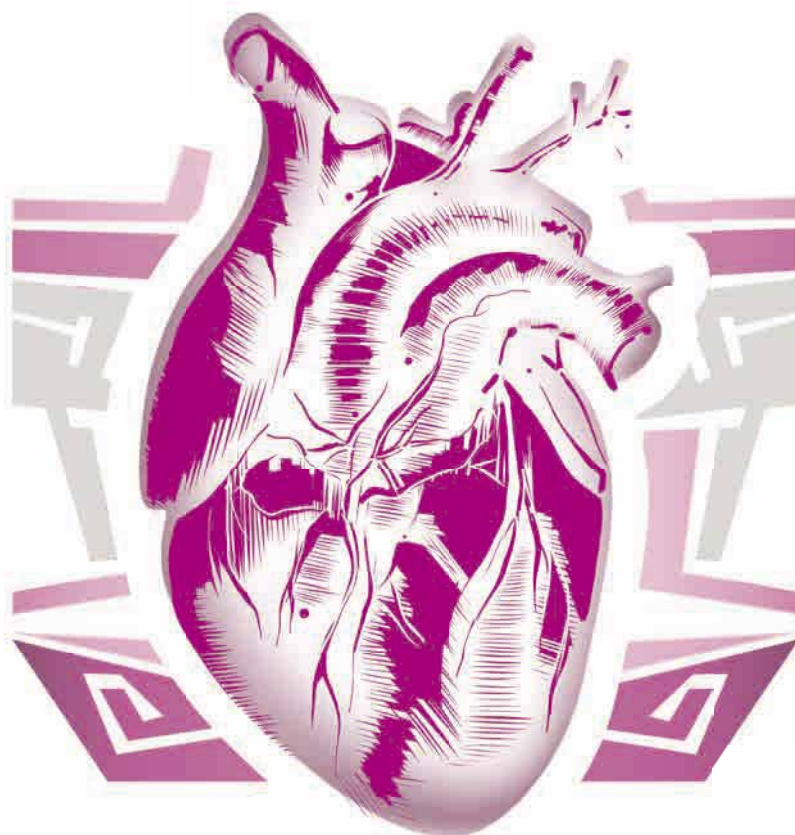
- Argentine Federation of Cardiology
- Argentine Society of Cardiology
- ASEAN Society of Echocardiography
- Asian-Pacific Association of Echocardiography
- Australasian Society for Ultrasound in Medicine
- Australasian Sonographers Association
- British Heart Valve Society
- British Society of Echocardiography
- 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
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SCIENCE & TECHNOLOGY THEATER SCHEDULE

SATURDAY, JUNE 19TH

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 Ultrasonics



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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:
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SDMS credit available

Saturday, June 19th, 2021
12:10 – 1:10 PM ET

Incorporating Contrast within your Institution



Omar Hussein
M.D.

Establishing a Sonographer Contrast Administration Protocol



Gina Conigliaro-Brito
MHA, RDCS, RCS, RVS

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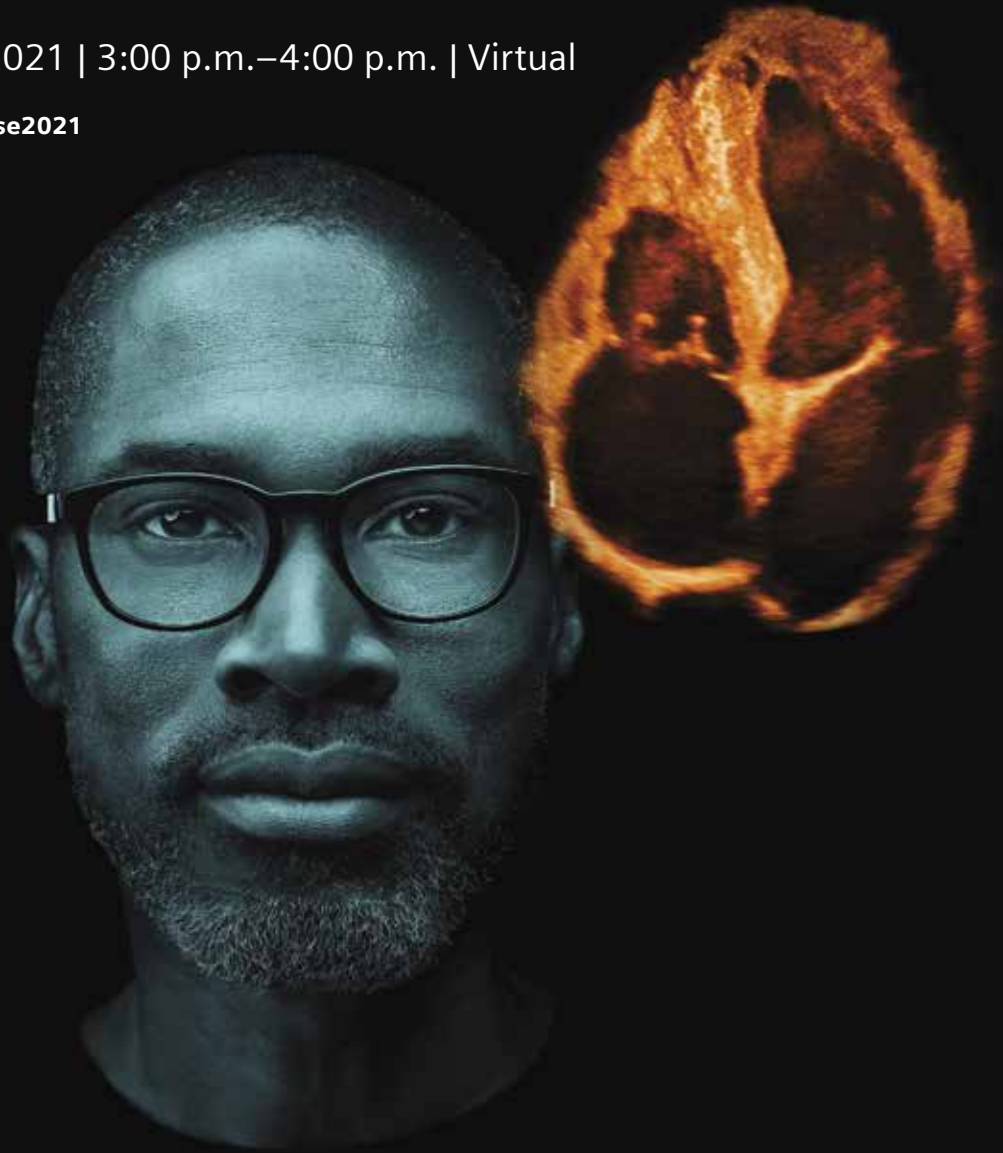
Save the Date!

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



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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

R ONLY 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-to-severe 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

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 effusion, 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 (HIT)); 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 injury or tissue changes due to exposure to ionizing radiation, Esophageal irritation; Esophageal perforation, Gastrointestinal bleeding

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.

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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

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.

PRESENTED BY



Rosco Gore, MD
Echocardiography Director
Brooke Army Medical Center



Monica Bush, RCS,
Supervisory Sonographer
Brooke Army Medical Center

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- 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

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**

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, [here](#).

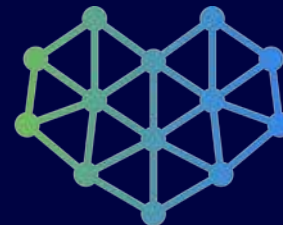
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May 2021 JB05095US

Automated Analysis Proven To Predict Patient Outcomes



EchoGo

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

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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

ASE2021

Virtual Experience

★ 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.

EXHIBITOR DESCRIPTIONS



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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 Foundation-related 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

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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.



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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.



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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>

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 AI-guided ultrasound system, Caption AI, 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 EchoInsight, a vendor neutral, zero footprint software platform with strain imaging. EchoInsight 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.

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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™

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Durham, NC 27713
United States
Phone: 919-861-5574

[ImageGuideEcho.org](http://www.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, volunteer 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, BPTeXAM, 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.

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Phone: 978-659-3000

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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



Siemens Healthineers

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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.

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Raleigh, NC 27609
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Phone: 919-277-0636

<https://www.corestudycast.com/>

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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.

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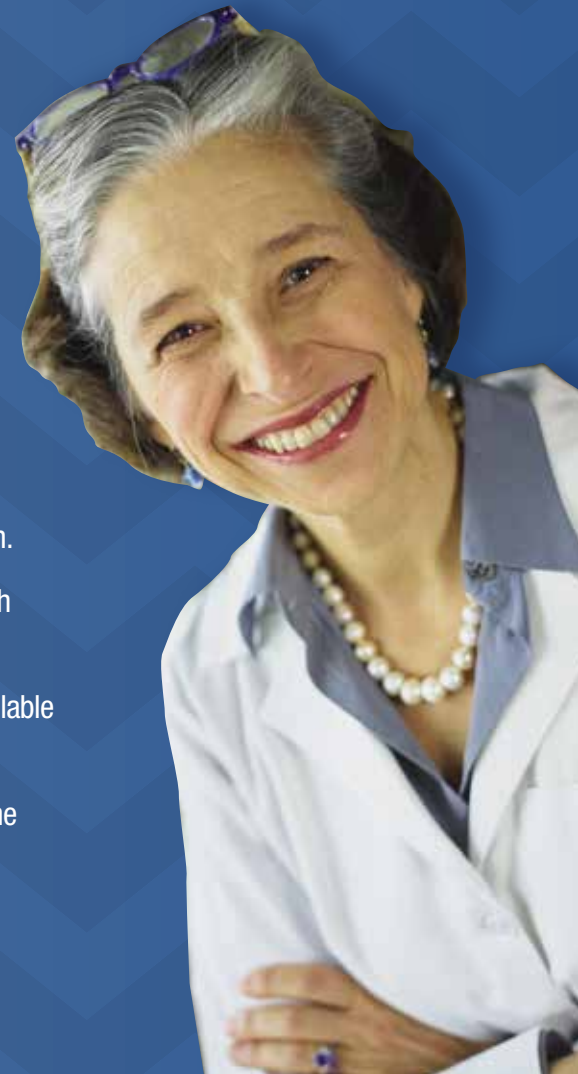
Ultromics

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."



 **ASE Foundation** ANNUAL APPEAL

Making a WORLD of Difference

ASEFoundation.org

THE RESEARCH AWARDS GALA

PRESENTED BY THE ASE FOUNDATION

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

2020 AWARD RECIPIENTS



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*



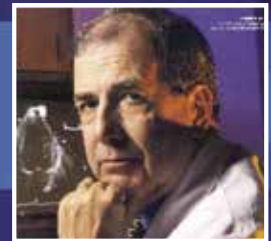
Meritorious Service Award

Bonita Anderson, M.AAPLSC, 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

2021 AWARD RECIPIENTS



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](https://twitter.com/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's 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

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ASE Foundation

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.

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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](https://www.seemyheart.org). Learn more about applying for FASE at [ASEcho.org/FASE](https://www.asecho.org/FASE).

NEW FASE RECIPIENTS

June 2020 - April 2021

Samah Ismael Abohamr, MD, M.Sc., MBBch, FASE

Tareq 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

Runqing 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. Taylor, 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.



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