



The Society
of Thoracic
Surgeons

53RD ANNUAL MEETING

George R. Brown Convention Center • Houston, Texas
January 21-25, 2017

PROGRAM GUIDE



Meeting Logistics3
 Convention Center Map9
 Program at a Glance10
 STS/AATS Tech-Con 2017 Program Outline17
 Saturday, January 2117
 STS 53rd Annual Meeting Program Outline23
 Sunday, January 2223
 Monday, January 2332
 Tuesday, January 24.....47
 Wednesday, January 25 / STS University60
 Exhibitor Listing.....61
 Society Information.....79
 STS Board of Directors79
 STS Committees, Councils & Workforces.....80
 STS-PAC Board of Advisors98
 The Annals of Thoracic Surgery Editorial Board.....99
 STS Representatives & Contacts102
 Past Meetings & Leadership110
 Honorary Members, Award Recipients
 & Featured Lecturers114
 The Thoracic Surgery Foundation.....117
 Program Participant Index121

Tweet about the Annual Meeting



#STS2017

The information in this Program Guide is accurate as of December 7, 2016.

ACCREDITATION STATEMENTS

The Society of Thoracic Surgeons is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

STS 53rd Annual Meeting

The Society of Thoracic Surgeons designates this live activity for a maximum of 27.75 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The American Board of Cardiovascular Perfusion designates this activity for 31.4 Category I CEUs.

STS 53rd Annual Meeting Online

The Society of Thoracic Surgeons designates this enduring material for a maximum of 105.75 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

2017 MOBILE APP

The STS Annual Meeting Mobile App makes it easy to plan your schedule while in Houston. Browse the educational program and save favorite sessions and presentations to your custom itinerary. Complete meeting evaluations and claim CME/Perfusion CEU credit within the app. The app updates in real-time, so you'll always have the latest information at your fingertips. Access the app by searching for "STS 2017" in the Apple App Store or Google Play or by scanning the QR code below with your smartphone. *The STS Annual Meeting Mobile App is supported by Medtronic.*

**ANNALS MANUSCRIPT SUBMISSION**

Each abstract that is presented orally or as a poster during the STS 53rd Annual Meeting must be submitted before or at the time of the meeting to *The Annals of Thoracic Surgery* for publication consideration. Manuscripts must be submitted via *The Annals* online manuscript tracking system (www.editorialmanager.com/annals) by Wednesday, January 25, 2017, 11:59 PM, Central Standard Time. For more information, including requests for waivers, see page 9 of the *STS 53rd Annual Meeting Abstract Book*.

ANNUAL MEETING ONLINE

Access to the STS 53rd Annual Meeting Online is **included** with Annual Meeting registration. With such a full meeting schedule, it's impossible to attend every presentation of interest. This web-based video presentation will let you earn CME credit for sessions you were unable to attend—or review sessions of special interest—in the comfort of your home or office. This activity also provides self-assessment credits toward Part 2 of the American Board of Surgery Maintenance of Certification Program. The Online product will be available approximately 1 month after the conclusion of the Annual Meeting and will be accessible for up to a year.

BUSINESS CENTER

A FedEx Office Print & Ship Center is located on Mezzanine Level 2 of the Convention Center. FedEx provides packing and shipping services, copying, faxing, and office supplies.

Saturday, January 21	7:00 AM – 1:00 PM
Sunday, January 22	7:00 AM – 1:00 PM
Monday, January 23	8:00 AM – 5:00 PM
Tuesday, January 24	8:00 AM – 5:00 PM
Wednesday, January 25	8:00 AM – 5:00 PM

CAREER FAIR

Make sure to stop by the STS/CTSNet Career Fair, which will give you the chance to meet face-to-face with top employers. Recruiters will be available to talk with you about career opportunities. The Career Fair will be held in Hall B3.

Sunday, January 22	4:30 PM – 6:30 PM
Monday, January 23	9:00 AM – 4:30 PM
Tuesday, January 24	9:00 AM – 3:30 PM

MEETING LOGISTICS

COAT & LUGGAGE CHECK

Complimentary coat and luggage check will be provided on Level 3 near Registration.

Saturday, January 21	6:45 AM – 7:00 PM
Sunday, January 22	6:30 AM – 7:00 PM
Monday, January 23	6:30 AM – 7:00 PM
Tuesday, January 24	6:30 AM – 6:00 PM
Wednesday, January 25	6:30 AM – 12:00 PM

CONTINUING MEDICAL EDUCATION CREDIT

The STS 53rd Annual Meeting utilizes an entirely electronic evaluation and CME/Perfusion CEU credit claim process. Both physicians and perfusionists can use this system to claim credit, complete evaluations, and print CME/Perfusion CEU certificates. Certificates of Attendance also are available for other attendees and international physicians not wishing to claim CME credit. Attendees will not be able to evaluate and claim CME/Perfusion CEU credit for ticketed sessions unless they have registered for those sessions. *Please note that CME credit is not available for the Residents Symposium, Residents Luncheon, or STS/AATS Tech-Con 2017.*

Attendees can complete the overall meeting evaluations and all individual session evaluations onsite at CME Stations located near Registration, near Room 330, and in Hall B3. Certificate printing is available.

Attendees also can complete evaluations and claim credit by visiting www.sts.org/2017evaluation or using the STS Annual Meeting Mobile App. In order to make this process more convenient for attendees, the meeting evaluations will be available online through Friday, February 10, 2017.

Attendees can log in to the website with the following information:

- **Username:** 6-digit member ID number located at the lower left-hand side of the meeting badge
- **Password:** First initial and last name

DINING OPTIONS

Four \$5 coupons, good for purchasing food and beverage items from the concession stands located in the Exhibit Hall, were provided with your badge. Two coupons can be used on Monday, and the others can be used on Tuesday. The concession stands will be open:

Monday, January 23	11:30 AM – 2:00 PM
Tuesday, January 24	11:30 AM – 2:00 PM

Complimentary coffee will be available in the Exhibit Hall at scheduled breaks on Monday and Tuesday. See the Program at a Glance on page 10 for details on break times.

A retail coffee bar is available near Room 330 and will be open daily at 6:30 AM. Starbucks is located on Mezzanine Level 2 and also will open at 6:30 AM daily.

EXHIBIT HALL HOURS

This year, the STS Exhibit Hall plays host to more than 100 companies showcasing the latest in cardiothoracic surgery products and technology. Don't miss the Opening Reception on Sunday at 4:30 PM in Exhibit Hall A3. Certain exhibitors will be offering refreshments during the reception.

Sunday, January 22	4:30 PM – 6:30 PM
Monday, January 23	9:00 AM – 4:30 PM
Tuesday, January 24	9:00 AM – 3:30 PM

FIRST AID

First aid services are available near Room 342A.

Thursday, January 19	8:00 AM – 5:00 PM
Friday, January 20	8:00 AM – 5:00 PM
Saturday, January 21	7:30 AM – 6:30 PM
Sunday, January 22	7:30 AM – 6:30 PM
Monday, January 23	6:30 AM – 6:30 PM
Tuesday, January 24	6:30 AM – 6:30 PM
Wednesday, January 25	6:30 AM – 12:00 PM

LEARNING LAB SCHEDULE

Exhibiting companies and others will present talks and demonstrations in the Learning Lab Theater, located in the Exhibit Hall.

Sunday, January 22

4:30 PM – 5:40 PM

STS Jeopardy Championships**Monday, January 23**

12:45 PM – 1:15 PM

Medtronic: "Overcoming Challenges in VATS Lobectomy"**Tuesday, January 24**

10:15 AM – 10:45 AM

Houston Methodist: "Hybrid CV Surgery Room of the Future"

12:15 PM – 12:45 PM

Ethicon: "Practical Skills in Thoracic Surgery"**LOOKING TO THE FUTURE**

The STS Looking to the Future Scholarship Program was developed to identify and encourage general surgery residents who are considering, but not yet committed to, a career in cardiothoracic surgery. This year, 30 medical students and 30 general surgery residents were awarded scholarships to attend the STS 53rd Annual Meeting. A number of events for the scholarship winners are being held during the Annual Meeting, including:

STS Looking to the Future Scholarship Medical Student Reception

Saturday, January 21, 5:00 PM – 7:00 PM

Americas Ballroom A, Hilton Americas-Houston

STS Looking to the Future Scholarship Medical Student Overview of CT Surgery

Sunday, January 22, 8:00 AM – 1:00 PM

Room 370A, George R. Brown Convention Center

STS Looking to the Future Scholarship/Women in Thoracic Surgery Reception

Sunday, January 22, 5:30 PM – 6:30 PM

Americas Ballroom A, Hilton Americas-Houston

STS Looking to the Future Scholarship Resident Program

Monday, January 23, 4:00 PM – 5:15 PM

Room 370A, George R. Brown Convention Center

MEETING LOGISTICS

LOST & FOUND

Lost items may be claimed at the Information Booth near Registration. After the meeting, all unclaimed items will be discarded.

NURSING/LACTATION ROOM

Facilities for nursing mothers are available in Room 332A and will be open during all registration hours (see below).

PHOTOGRAPHY AND VIDEO RECORDING POLICY

Photography and video recording of STS/AATS Tech-Con 2017 sessions are strictly prohibited, except by authorized personnel. Video recording of STS 53rd Annual Meeting sessions is strictly prohibited, except by authorized personnel.

REGISTRATION

Attendee and exhibitor registration is located on Level 3 of the Convention Center.

Friday, January 20	3:00 PM – 6:00 PM
Saturday, January 21	7:00 AM – 6:00 PM
Sunday, January 22	7:00 AM – 6:30 PM
Monday, January 23	6:30 AM – 5:00 PM
Tuesday, January 24*	6:30 AM – 4:30 PM
Wednesday, January 25*	6:30 AM – 9:30 AM

**Exhibitor registration ends at 3:30 PM on Tuesday.*

Badges must be worn at all times and are required for admission to scientific sessions and the STS Exhibit Hall. STS/AATS Tech-Con 2017 and the STS 53rd Annual Meeting require separate registration.

Tech-Con registration provides access only to the educational sessions on Saturday, January 21. Annual Meeting registration provides access only to the educational sessions on Sunday, January 22, Monday, January 23, and Tuesday, January 24. You also will receive complimentary access to Annual Meeting Online.

You also may purchase separate tickets to attend the STS Social Event (Monday, January 23) and STS University courses (Wednesday, January 25).

SATELLITE ACTIVITIES

Satellite activities are programs offered by industry and held in conjunction with the STS 53rd Annual Meeting. They are not developed or sponsored by STS.

Saturday, January 21

Atricure & MediaSphere Medical, LLC

Surgical LAA Closure: Why, When, and How

7:00 PM – 9:00 PM

Americas Ballroom D, Hilton Americas-Houston
1600 Lamar Street

Sunday, January 22

JOMDD

Latest Updates on the Ozaki Aortic Valve Neo-Cuspidization Procedure

7:00 PM – 10:00 PM

Americas Ballroom BC, Hilton Americas-Houston
1600 Lamar Street

Medtronic

Treating Your Patients With Heart Valve Disease

7:00 PM – 10:00 PM

Room 343AB, Hilton Americas-Houston

1600 Lamar Street

Tuesday, January 24**Baxter Healthcare**

The Role of Advanced Hemostats and Sealants in Blood Management During Cardiovascular Surgery: A Clinical Perspective

6:00 PM – 9:00 PM

Houston Methodist Institute for Technology, Innovation & Education

6670 Bertner Avenue, 5th Floor

SCIENTIFIC POSTERS

Scientific posters are located in Hall B3 and will be available from 2:00 PM on Sunday, January 22, through 5:00 PM on Tuesday, January 24.

Also, join your colleagues at the Scientific Posters and Wine event, 5:15 PM to 6:30 PM on Monday, January 23, in the Grand Ballroom Foyer, for a moderated review of select scientific posters.

SOCIAL EVENT

Join your colleagues at the 2017 STS Social Event at the Space Center Houston, the official visitor's center of NASA's Johnson Space Center. In addition to enjoying an extensive buffet and open bar, you'll be able to check out artifacts documenting the history of space travel, including a collection of spacesuits worn by NASA astronauts, the Apollo 17 Command Module, the giant Skylab Trainer, and more.

The Social Event will be held on Monday, January 23, from 7:30 PM to 10:30 PM, with shuttle buses departing from all official STS hotels beginning at 6:45 PM. Don't miss this opportunity! Purchase a ticket at Registration.

SOCIAL MEDIA

Like the STS Facebook page at www.facebook.com/societyofthoracicsurgeons and follow STS on Twitter at @STS_CTSurgery for more information about Houston and the Annual Meeting. Be sure to use the hashtag #STS2017 if you tweet about the STS 53rd Annual Meeting.

After the Annual Meeting is over, the STS Facebook and Twitter pages will continue to deliver news on future STS events and CME credit opportunities.

SPEAKER READY ROOM

The Speaker Ready Room is Room 340. All presenters must report to the Speaker Ready Room at least 24 hours prior to their scheduled presentation time to upload their PowerPoint into the presentation system.

MEETING LOGISTICS

STS-PAC RECEPTION

Join Society surgeon and staff leaders on Monday, January 23, for a special reception in support of STS-PAC, the only political action committee representing the interests of cardiothoracic surgery. The reception will be held from 6:30 PM to 7:30 PM in Meeting Room 340 at the Hilton Americas-Houston. This event is open to US members of STS who contribute to STS-PAC in 2017. Contributions will be accepted at the door.

STS BOOTH

The STS booth (#533) in the Exhibit Hall offers a one-stop shop for all things STS. Attendees can learn about advocacy efforts, membership benefits, STS National Database initiatives, STS Public Reporting, upcoming educational programs, the Thoracic Surgery Foundation, research opportunities, and more. Staff from *The Annals of Thoracic Surgery* also will be available to help authors with manuscript submissions, accessing *Annals* CME activities, and improving figures in manuscripts.

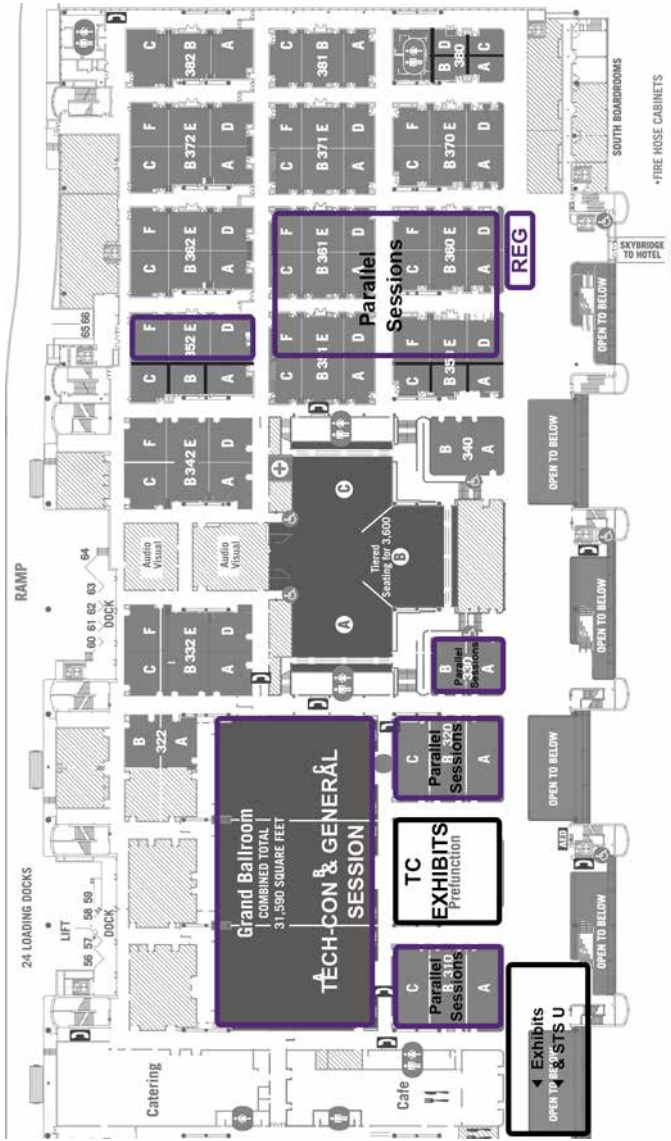
STS UNIVERSITY LECTURES

STS University courses feature only hands-on learning. No didactic lectures will be given during the activity, so attendees are encouraged to access the lectures online prior to Wednesday morning. You can access the lectures at the STS University viewing station located in Hall B3. You also can access them from your own computer or handheld device by visiting www.sts.org/annualmeeting or using the STS Annual Meeting Mobile App.

WIRELESS INTERNET

Complimentary wireless internet, supported by CryoLife, is available in the Convention Center for all STS Annual Meeting attendees. To connect to the wireless internet, select "STS_2017" from the available networks. Launch a web browser and follow the instructions to connect, entering password "OnXstepahead" when prompted; the password is case sensitive.

CONVENTION CENTER MAP



PROGRAM AT A GLANCE

FRIDAY, JANUARY 20

3:00 PM – 6:00 PM

Registration

SATURDAY, JANUARY 21

7:00 AM – 6:00 PM

Registration

7:00 AM – 6:30 PM

Tech-Con Exhibits

7:00 AM – 8:00 AM

Breakfast

8:00 AM – 9:30 AM

 **Tech-Con Adult Cardiac Track I: Innovations in Mitral Valve Disease and Atrial Fibrillation Management**

 **Tech-Con General Thoracic Track I: Precision Thoracic Surgery**

9:30 AM – 10:15 AM

BREAK—Visit Tech-Con Exhibits

10:15 AM – 12:00 PM

 **Tech-Con Adult Cardiac Track II: Aortic/Endovascular**

 **Tech-Con General Thoracic Track II: Advanced Thoracic Surgery**

12:00 PM – 1:00 PM

LUNCH—Visit Tech-Con Exhibits

1:00 PM – 2:45 PM

 **Tech-Con Adult Cardiac Track III: Ventricular Assist Devices/Heart Failure**

 **Tech-Con General Thoracic Track III: Health Care in the 21st Century**

2:45 PM – 3:15 PM

BREAK—Visit Tech-Con Exhibits

3:15 PM – 5:00 PM

 **Tech-Con Joint Session: “Shark Tank”—Rapid-Fire Elevator Pitches of Revolutionary Technology**

5:00 PM – 6:30 PM

Tech-Con Reception

SUNDAY, JANUARY 22

7:00 AM – 6:30 PM

Registration

7:00 AM – 8:00 AM

Heater-Cooler-Induced Infections: Practices, Protocols, and Mitigation Strategies

8:00 AM – 12:00 PM

- ✔ **Adult Congenital Heart Disease Symposium: Evaluating Approaches to the Aortic Valve and End-Stage Problems in Young Adults—What Pediatric and Adult Cardiac Surgeons Can Learn From Each Other**

Practice Management Summit: Working In an Employment Model Environment

- ✔ **STS/AATS Critical Care Symposium: Challenges in the Management of Mechanical Cardiopulmonary Support in the Cardiothoracic Intensive Care Unit**

STS/SCA: Integrating Perioperative Echocardiography Into Cardiac Surgical Clinical Decision Making

10:00 AM – 4:30 PM

“How To” Video Session: Technical Tricks and Pitfalls to Simplify Cardiac Surgery Procedures

12:00 PM – 1:00 PM

BREAK

1:00 PM – 4:00 PM

- ✔ **Residents Symposium: Transitioning From Residency to a Successful Practice**

1:00 PM – 4:30 PM

Resuscitation of Patients Who Arrest After Cardiac Surgery

Surgical Symposium: Congenital Cardiac Surgery Mélange

- ✔ **Surgical Symposium: “How To” Video Session—Tips and Tricks in General Thoracic Surgery**

2:00 PM – 6:30 PM

Scientific Posters

2:30 PM – 4:30 PM

Multidisciplinary Response to Emergencies: Strategies for Team Members

4:30 PM – 6:30 PM

Opening Reception in STS Exhibit Hall

MONDAY, JANUARY 23

6:30 AM – 5:00 PM

Registration

9:00 AM – 4:30 PM

Exhibit Hall**Scientific Posters**

7:00 AM – 7:15 AM

Opening Remarks

PROGRAM AT A GLANCE

7:15 AM – 8:15 AM

J. Maxwell Chamberlain Memorial Papers

8:15 AM – 9:00 AM

Richard E. Clark Memorial Papers

9:00 AM – 9:40 AM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

9:40 AM – 9:50 AM

Introduction of the President: Richard L. Prager

9:50 AM – 10:50 AM

Presidential Address: Joseph E. Bavaria

10:50 AM – 11:30 AM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

11:30 AM – 12:30 PM

Adult Cardiac: Arrhythmia

Basic Science Research: Adult Cardiac

Basic Science Research: General Thoracic

Congenital: Adult Congenital

Critical Care

Ethics Debate: When a Child's Heart Is Failing

General Thoracic: New Technology

Late-Breaking Abstracts I

! **STS Key Contacts: How to Become an Advocate for Cardiothoracic Surgery**

STS/CATS/CSCS: Quality Improvement in Cardiothoracic Surgery—Real-Life Methods to Improve Surgical Performance Within Yourself, Your Division, and Your Specialty

12:30 PM – 1:30 PM

BREAK—Visit Exhibits and Scientific Posters

1:15 PM – 5:15 PM

✓ **ACC @ STS: Cardiologists and Surgeons Tackling Complex Clinical Scenarios as a Heart Team**

Redefining Practice Through Quality and Evidence: What's New

1:30 PM – 3:30 PM

Adult Cardiac: Aorta I

Adult Cardiac: Ischemic

Congenital: Pediatric Congenital I

General Thoracic: Lung Cancer I

General Thoracic: Lung Transplantation

International Symposium: The Quality vs Access Dilemma in Cardiothoracic Surgery—Regionalization, Building Sustainable Cardiothoracic Surgery Programs, and Humanitarian Crises

SVS @ STS: Sharing Common Ground for Cardiovascular Problems

3:30 PM – 4:15 PM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

4:15 PM – 5:15 PM

Surgical Motion Picture Matinees: Adult Cardiac, Congenital, and General Thoracic

The Annals Academy: Propensity Score Matching

5:15 PM – 6:30 PM

Scientific Posters and Wine

5:30 PM – 6:30 PM

Business Meeting (STS Members Only)

6:30 PM – 7:30 PM

STS-PAC Reception

7:30 PM – 10:30 PM

 **STS Social Event: Space Center Houston (Shuttle buses depart at 6:45 PM)**

TUESDAY, JANUARY 24

6:30 AM – 4:30 PM

Registration

9:00 AM – 3:30 PM

Exhibit Hall

9:00 AM – 5:00 PM

Scientific Posters

7:30 AM – 8:30 AM

 **Early Riser Sessions**

Early Riser Health Policy Forum: Ready or Not: Implementing the New Merit-Based Incentive Payment System in Your Practice Today

8:45 AM – 9:00 AM

Results of the STS TAVR Survey

9:00 AM – 10:00 AM

Thomas B. Ferguson Lecture: Ralph W. Muller

PROGRAM AT A GLANCE

10:00 AM – 10:45 AM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

10:45 AM – 11:00 AM

Award Presentations

11:00 AM – 12:00 PM

C. Walton Lillehei Lecture: Samer Nashef

12:00 PM – 1:00 PM

BREAK—Visit Exhibits and Scientific Posters

 Residents Luncheon

1:00 PM – 3:00 PM

Adult Cardiac: General

Adult Cardiac: Mitral and Tricuspid Valves

Congenital: Pediatric Congenital II

EACTS @ STS: Management of Distal Type B Aortic Dissection

 Electronic Learning and Innovation in Education

General Thoracic: Esophageal

General Thoracic: Lung Cancer II

1:00 PM – 5:30 PM

Advanced Therapies for End-Stage Heart Disease

 Patient Safety Symposium: Resilience or Burnout—Do We Have a Choice?

3:00 PM – 3:30 PM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

3:30 PM – 4:30 PM

Cardiothoracic Surgical Education

Late-Breaking Abstracts II

3:30 PM – 5:30 PM

Adult Cardiac: Aorta II

Adult Cardiac: Aortic Valve

Congenital: Pediatric Congenital III

**ESTS @ STS: Controversial Issues in General Thoracic Surgery—
Perspectives From Europe and North America**

General Thoracic: Mediastinal/Pulmonary

WEDNESDAY, JANUARY 25

6:30 AM – 9:30 AM

Registration & Breakfast

7:00 AM – 9:00 AM

 **STS University**

9:30 AM – 11:30 AM

 **STS University (courses repeated)**

Please note that Tech-Con registration is separate from Annual Meeting registration. Continuing Medical Education credit will not be offered for Tech-Con programming.

Photography and recording of Tech-Con sessions are strictly prohibited, except by authorized personnel.

FRIDAY, JANUARY 20

3:00 PM – 6:00 PM

Room 360 Lobby

Registration

SATURDAY, JANUARY 21

7:00 AM – 6:00 PM

Room 360 Lobby

Registration

7:00 AM – 6:30 PM

Grand Ballroom Foyer

Tech-Con Exhibits

7:00 AM – 8:00 AM

Grand Ballroom Foyer

Breakfast

8:00 AM – 9:30 AM

Grand Ballroom AB



Adult Cardiac Track I: Innovations in Mitral Valve Disease and Atrial Fibrillation Management

Moderators: T. Sloane Guy, New York, NY, and Rakesh M. Suri, Cleveland, OH

8:00 AM **Mitral Valve Replacement Will Dominate the Transcatheter Space: Update on Devices and World Experience**

Vinay K. Bapat, London, United Kingdom

8:08 AM **Preclinical Experience With the Direct Flow Transcatheter Mitral Valve**

W. Douglas Boyd, Sacramento, CA

8:16 AM **Transcatheter Mitral Valve Replacement With the Medtronic Twelve Valve**

Michael J. Reardon, Houston, TX

8:24 AM **Update on Transcatheter Mitral Valve Repair**

Matherw R. Williams, New York, NY

8:32 AM **Panel Discussion**

8:45 AM **Robotic Mitral Valve Surgery: Where Are We Going?**

Robert L. Smith, Plano, TX

8:53 AM **Minimally Invasive Non-Robotic Mitral Valve Surgery: A New Standard?**

Aubrey C. Galloway Jr, New York, NY

9:01 AM **New Developments in Atrial Fibrillation**

Niv Ad, Falls Church, VA

9:09 AM **Left Atrial Appendage Closure Devices and Techniques**

Richard Lee, St Louis, MO

9:17 AM **Panel Discussion**

8:00 AM – 9:30 AM

Room 310ABC

CME General Thoracic Track I: Precision Thoracic Surgery

Moderators: James D. Luketich, Pittsburgh, PA, and Benjamin Wei, Birmingham, AL

- 8:00 AM **Ablative Lung Cancer Therapies**
Jeremiah T. Martin, Portsmouth, OH
- 8:12 AM **Physiologic-Guided Surgery: SPY, Firefly, and Other Localization Techniques**
Daniela Molena, New York, NY
- 8:24 AM **Utilizing Advancements in Cosmetic Surgery to Enhance Lung Resections**
Wissam Raad, New York, NY
- 8:36 AM **Panel Discussion**
- 8:46 AM **Genomic Tools for Lung Cancer Diagnosis and Treatment**
Daniel J. Boffa, New Haven, CT
- 8:58 AM **Lung Cancer Breath Test**
Michael Bousamra II, Louisville, KY
- 9:10 AM **Intelligent Chest Tube Systems for Cardiothoracic Surgery**
Randy Preston, Omaha, NE
- 9:22 AM **Panel Discussion**

9:30 AM – 10:15 AM

Grand Ballroom Foyer

BREAK—Visit Tech-Con Exhibits

10:15 AM – 12:00 PM

Grand Ballroom AB

CME Adult Cardiac Track II: Aortic/Endovascular

Moderators: Michael A. Borger, New York, NY, and Ali Khoynezhad, Los Angeles, CA

- 10:15 AM **Debate: TAVR Will Be Performed in 95% of Isolated Aortic Stenosis Patients in 5 Years**
Pro: Himanshu J. Patel, Ann Arbor, MI
Con: Saibal Kar, Los Angeles, CA
- 10:30 AM **Aortic Valve Repair 101**
Gebrine El Khoury, Brussels, Belgium
- 10:38 AM **Edwards INTUITY Elite Rapid Deployment Aortic Valve Replacement Insertions: Technique Video**
Kevin D. Accola, Orlando, FL
- 10:46 AM **Perceval Sutureless Aortic Prosthesis in the Bicuspid Aortic Valve: Technical Tips and Results From the US Investigational Device Exemption Study**
Eric E. Roselli, Cleveland, OH
- 10:54 AM **Prospective European Multicenter Trial Evaluating Decellularized Homografts for Aortic Valve Replacement—The ARISE Study**
Samir Sarikouch, Hanover, Germany
- 11:02 AM **Panel Discussion**
- 11:12 AM **Outcomes of On- and Off-Label Ascending Thoracic Endovascular Aortic Repair (TEVAR)**
Rodney White, Torrance, CA

- 11:20 AM **Current Endovascular Technologies in Thoracoabdominal Aortic Aneurysm Repair**
Matthew J. Eagleton, Cleveland, OH
- 11:28 AM **Aortic Wall Strengthening by Endovascular “Net” Prosthesis for Aortic Aneurysm Prevention in Marfan Syndrome and Other Genetic Disorders**
Stefano Nazari, Pavia, Italy
- 11:36 AM **Debate: Branched TEVAR Will Be Performed in 95% of All Arch Pathologies in 5 Years**
Pro: Leonard N. Girardi, New York, NY
Con: Nimesh Desai, Philadelphia, PA
- 11:50 AM **Panel Discussion**

10:15 AM – 12:00 PM

Room 310ABC

CME General Thoracic Track II: Advanced Thoracic Surgery*Moderators: DuyKhanh P. Ceppa, Indianapolis, IN, and Michael F. Reed, Hershey, PA*

- 10:15 AM **Training Models and Simulators**
Shari L. Meyerson, Chicago, IL
- 10:27 AM **Advanced Endoscopic Gastrointestinal Techniques: What’s New and What’s Coming**
Speaker TBD
- 10:39 AM **Advanced Bronchoscopic Techniques**
Ali I. Musani, Milwaukee, WI
- 10:51 AM **Cryobiopsy for Diagnosing Interstitial Lung Disease: What Is It and Should Surgeons Be Doing It?**
Sadia Benzaquen, Cincinnati, OH
- 11:03 AM **Panel Discussion**
- 11:13 AM **Robotic Stapling/Advances**
Michael Zervos, New York, NY
- 11:25 AM **Smart Tissue Autonomous Robot (STAR)**
Peter Y. Kim, Washington, DC
- 11:37 AM **Subxiphoid and Subcostal Uniportal Lobectomy**
Joel Dunning, Middlesbrough, United Kingdom
- 11:49 AM **Panel Discussion**

12:00 PM – 1:00 PM

Grand Ballroom C/Room 320ABC

LUNCH—Visit Tech-Con Exhibits

1:00 PM – 2:45 PM

Grand Ballroom AB

CME Adult Cardiac Track III: Ventricular Assist Devices/Heart Failure*Moderators: Duc T. Pham, Chicago, IL, and John M. Stulak, Rochester, MN*

- 1:00 PM **Options for Biventricular Support: Total Artificial Heart, Bi-HVAD, Bi-HM2**
Martin Strueber, Grand Rapids, MI
- 1:15 PM **Current State of Partial Assist Devices**
Daniel Burkhoff, New York, NY
- 1:30 PM **Devices in Development: Longhorn, Ventriflo, Pulsatile Extracorporeal Membrane Oxygenation (ECMO)**
Nader Moazami, Cleveland, OH

- 1:45 PM **Percutaneous and Acute Mechanical Circulatory Support Devices: Impella, Right Peripheral, Percutaneous Heart Pump, ECMO (E-CPR)**
Jonathan W. Haft, Ann Arbor, MI
- 2:00 PM **Specialty Products in Development: Percutaneous Distal Embolic Protection for Left Ventricular Assist Device Thrombolysis**
David L. Joyce, Rochester, MN
- 2:15 PM **Specialty Products in Development: A Universal, Smart, and Portable Driver for All SynCardia Total Artificial Heart Patients**
Francisco A. Arabia, Los Angeles, CA
- 2:30 PM **Panel Discussion**

1:00 PM – 2:45 PM

Room 310ABC

CME General Thoracic Track III: Health Care in the 21st Century

Moderators: Lisa M. Brown, Sacramento, CA, and Jeremiah T. Martin, Portsmouth, OH

- 1:00 PM **Apps to Improve Efficiency/Operating Room Throughput: Core Mobile**
Chandra S. Tekwani, San Francisco, CA
- 1:12 PM **Patient Engagement Apps: HealthLoop**
Speaker TBD
- 1:24 PM **Social Media and Thoracic Surgery**
Thomas K. Varghese Jr, Salt Lake City, UT
- 1:36 PM **Marketing CT Surgeons in the Year 2017: Why and How**
Fernando N. Lamounier, Denver, CO
- 1:48 PM **Panel Discussion**
- 1:58 PM **Automated Lung Cancer Screening/Aspen Lung**
Julian Guitron, Loveland, OH
- 2:10 PM **Lessons Learned in Implementing a Lung Cancer Screening Program**
Betty C. Tong, Durham, NC
- 2:22 PM **Big Data and Thoracic Surgery: Clinical Models**
Eric L. Grogan, Nashville, TN
- 2:34 PM **Panel Discussion**

2:45 PM – 3:15 PM

Grand Ballroom Foyer

BREAK—Visit Tech-Con Exhibits

3:15 PM – 5:00 PM

Grand Ballroom AB

CME Joint Session: “Shark Tank”—Rapid-Fire Elevator Pitches of Revolutionary Technology

Moderators: Mark F. Berry, Stanford, CA, and Richard Lee, St Louis, MO

“Shark Tank” Judge: Rick Anderson, Austin, TX

- 3:15 PM **Debate: New Technology Is the Birth/Death of Thoracic Surgery**
Early Stage Lung Cancer—Thoracic Surgeons Need to Do More Than Just Cut: James D. Luketich, Pittsburgh, PA
Early Stage Lung Cancer Patients Don’t Need a Thoracic Surgeon: Robert D. Timmerman, Dallas, TX

- 3:35 PM **Zero Leak Project**
Shanda H. Blackmon, Rochester, MN
- 3:50 PM **Flexdex™: A Minimally Invasive Surgical Technology With Enhanced Dexterity and Intuitive Control**
James Geiger, Ann Arbor, MI
- 4:05 PM **Expandable Devices For Easier, Quicker, and More Efficient Anastomosis in Aortic Prosthetic Substitution**
Stefano Nazari, Milan, Italy
- 4:20 PM **How to Go Through the FDA Process**
John C. Laschinger, Silver Spring, MD
- 4:30 PM **How to Avoid Getting in Trouble With the FDA: The MitraClip Example**
Patrick M. McCarthy, Chicago, IL
- 4:40 PM **Debate: New Technology Is The Birth/Death of Cardiac Surgery**
Death: Raj Makkar, Los Angeles, CA
Birth: Michael J. Mack, Dallas, TX

5:00 PM – 6:30 PM

Grand Ballroom Foyer

Tech-Con Reception

STS 53RD ANNUAL MEETING PROGRAM OUTLINE

The information provided here is an outline of the program. Only presenting authors are listed. Please consult the *Abstract Book* for full abstract text, complete author lists, and disclosures.

SUNDAY, JANUARY 22

7:00 AM – 6:30 PM

Room 360 Lobby

Registration

7:00 AM – 8:00 AM

Room 310ABC

Heater-Cooler-Induced Infections: Practices, Protocols, and Mitigation Strategies

Moderators: Joseph E. Bavaria, Philadelphia, PA, and Richard L. Prager, Ann Arbor, MI

7:00 AM

Description of the Heater-Cooler Issue Facing Cardiothoracic Surgery Practices

Richard L. Prager, Ann Arbor, MI

7:10 AM

Nontuberculous Mycobacterium Infections Associated with Heater-Cooler Devices Used During Cardiothoracic Surgery: An Emerging Public Health Concern

K. B. Allen, St Luke's Mid America Heart Institute, Kansas City, MO

7:25 AM

The Infectious Disease Perspective

Neil O. Fishman, Philadelphia, PA

7:30 AM

The European Response

A. Pieter Kappetein, Rotterdam, The Netherlands

7:35 AM

The North American Response

Larry Shears, Chattanooga, TN

7:40 AM

Panel Discussion

Kenneth Shann, Boston, MA, Miguel Sousa Uva, Lisbon, Portugal, Thoralf M. Sundt, Boston, MA, and all session participants

8:00 AM – 12:00 PM

Room 350DEF

✔ Adult Congenital Heart Disease Symposium: Evaluating Approaches to the Aortic Valve and End-Stage Problems in Young Adults—What Pediatric and Adult Cardiac Surgeons Can Learn From Each Other

Moderators: Joshua L. Hermesen, Seattle, WA, Robert B. Jaquiss, Durham, NC, Jennifer S. Nelson, Chapel Hill, NC, and Frank G. Scholl, Hollywood, FL

8:00 AM

Introduction

Jennifer S. Nelson, Chapel Hill, NC

8:10 AM

Three Young Adult Aortic Valve Cases I Handled Differently and Why

Joseph A. Dearani, Rochester, MN

8:30 AM

Aortic Valve Repair for Bicuspid Aortic Valve: Techniques and Results

Joseph E. Bavaria, Philadelphia, PA

8:45 AM

Valve-Sparing Root: Leaflet Plication Techniques and Valves NOT to Save

Duke E. Cameron, Baltimore, MD

9:05 AM

Why I Choose a Ross for Aortic Valve Replacement in a Teen or Young Adult

Richard G. Ohye, Ann Arbor, MI

- 9:25 AM **Staging for Transcatheter Aortic Valve Replacement: An Emerging Perspective on AVR in the Young Adult**
Vinod H. Thourani, Atlanta, GA
- 9:40 AM **Q&A**
- 10:00 AM **Break**
- 10:20 AM **Timing of Transplant and Candidate Considerations for the Failing Fontan**
Steven J. Kindel, Milwaukee, WI
- 10:35 AM **Transplantation in the Adult Congenital Patient: Pulmonary Artery Reconstruction and Other Advanced Techniques**
Kristine J. Guleserian, Dallas, TX
- 10:50 AM **The Failing Fontan: Two Cases I Wish I Handled Differently**
Carl L. Backer, Chicago, IL
- 11:10 AM **Experience With the Total Artificial Heart in Congenital Heart Disease**
J. William Gaynor, Philadelphia, PA
- 11:25 AM **Experience With the Total Artificial Heart: Implantation Tips and Pitfalls to Avoid**
Francisco A. Arabia, Los Angeles, CA
- 11:45 AM **Q&A**

8:00 AM – 12:00 PM

Room 360A

Practice Management Summit: Working In an Employment Model Environment

Moderators: Frank L. Fazzalari, Ann Arbor, MI, and Paul S. Levy, Jonesboro, AR

- 8:00 AM **Introduction**
- 8:10 AM **Health First Strategies for Economic Alignment of the CT Surgery Service Line**
Aaron Robinson, Rockledge, FL
- 8:30 AM **Recent Trends in Economic Surveys and Their Use in Contract Negotiations**
Michael N. Heaton, Indianapolis, IN
- 8:50 AM **Work Relative Value Unit Employment Models: A Bad Choice for Cardiothoracic Surgeons**
Michael G. Moront, Toledo, OH
- 9:10 AM **Partnering for Excellence in Today's Health Care Environment: Health Corporation of America's Cardiovascular Service Line**
Steven V. Manoukian, Nashville, TN
- 9:30 AM **Panel Discussion**
- 10:00 AM **Break**
- 10:20 AM **Experience in Dealing With Employed Physicians**
Mark Kopson, Bloomfield Hills, MI
- 10:40 AM **Ethical Issues in an Employment Model**
Richard I. Whyte, Boston, MA
- 11:00 AM **Update From the STS/AATS Workforce on Health Policy, Reform, and Advocacy**
Alan M. Speir, Falls Church, VA
- 11:20 AM **How to Take Your Idea From a Napkin to a Company**
Steven F. Bolling, Ann Arbor, MI
- 11:40 AM **Panel Discussion**

8:00 AM – 12:00 PM

Room 351DEF

ST/AATS Critical Care Symposium: Challenges in the Management of Mechanical Cardiopulmonary Support in the Cardiothoracic Intensive Care Unit

Moderators: Rakesh C. Arora, Winnipeg, Canada, Aaron M. Cheng, Seattle, WA, Kevin W. Lobdell, Charlotte, NC, Vassyl A. Lonchyna, Hinsdale, IL, and Glenn J. R. Whitman, Baltimore, MD

8:00 AM Introduction

Vassyl A. Lonchyna, Hinsdale, IL

MCS Management for the Cardiac Intensivist

8:05 AM State of the Art of LVAD Therapy

Mark S. Slaughter, Louisville, KY

8:25 AM Hemodynamics of MCS: Bedside Interpretation and Overinterpretation

Nir Uriel, Chicago, IL

8:40 AM Venous-Arterial, Venous-Arterial-Venous, and Venous-Venous Extracorporeal Membrane Oxygenation: How to Choose, How to Start, and How to Stop

Valluvan Jeevanandam, Chicago, IL

8:55 AM Panel Discussion and Difficult Cases

Joseph Rabin, Baltimore, MD

9:15 AM Break and Networking

RV Dysfunction in the Postoperative Period

9:30 AM Pulmonary Hypertension and the RV in the CT ICU

David A. Fullerton, Aurora, CO

9:50 AM Use of Invasive and Noninvasive Monitoring Strategies to Identify the Failing RV in the CT ICU

Andre Denault, Montreal, Canada

10:05 AM RV Failure After MCS: Preoperative Recognition, Perioperative Physiology, and Therapeutic Approaches

Ryan J. Tedford, Baltimore, MD

10:20 AM Panel Discussion and Difficult Cases

Michael S. Firstenberg, Akron, OH

10:35 AM Break and Networking

Multisystem Issues in the MCS Patient

10:50 AM High-Risk and Complex Problems in MCS

Jonathan W. Haft, Ann Arbor, MI

11:10 AM ICU Liberation Bundle: What Does It Look Like for the CT ICU?

Rakesh C. Arora, Winnipeg, Canada

11:30 AM Panel Discussion

Jay G. Shake, Jackson, MS

8:00 AM – 12:00 PM

Room 330AB

STS/SCA: Integrating Perioperative Echocardiography Into Cardiac Surgical Clinical Decision Making

Moderator: Alina Nicoara, Durham, NC

Panelists: Vinay Badhwar, Morgantown, WV, John V. Conte, Baltimore, MD, Daniel H. Drake, Traverse City, MI, and Vinod H. Thourani, Atlanta, GA

8:00 AM Introduction

Alina Nicoara, Durham, NC

- 8:10 AM** **When Is Mitral Valve Surgery Required in Patients Undergoing Revascularization? Applying New Evidence**
Feroze Mahmood, Boston, MA
- 8:45 AM** **When Is Mitral Valve Surgery Required in Patients Undergoing Myectomy for Hypertrophic Cardiomyopathy?**
Alina Nicoara, Durham, NC
- 9:20 AM** **When Is a Tricuspid Valve Procedure Recommended in Patients Undergoing Mitral Valve Surgery?**
Charles B. Nyman, Boston, MA
- 10:00 AM** **Break**
- 10:30 AM** **Failed Mitral Valve Repair**
Alina Nicoara, Durham, NC
- 11:00 AM** **Cannot Separate from Cardiopulmonary Bypass: Now What?**
Feroze Mahmood, Boston, MA
- 11:30 AM** **High Gradients After Aortic Valve Replacement**
Charles B. Nyman, Boston, MA

10:00 AM – 4:30 PM

Room 320ABC

“How To” Video Session: Technical Tricks and Pitfalls to Simplify Cardiac Surgery Procedures

Moderators: Gorav Ailawadi, Charlottesville, VA, and Wilson Y. Szeto, Philadelphia, PA

Coronary Artery Bypass Grafting (CABG)

- 10:00 AM** **Introduction**
- 10:10 AM** **Sequencing Grafts: Getting the Angles/Lengths Perfect**
Joseph F. Sabik, Cleveland, OH
- 10:20 AM** **No-Touch Aorta CABG**
Marc Ruel, Ottawa, Canada
- 10:30 AM** **C-Port Anastomosis**
Husam H. Balkhy, Chicago, IL
- 10:50 AM** **Discussion**

Mitral Valve Surgery

- 11:00 AM** **Transseptal Exposure of Mitral Valve (Surgical and Transcatheter)**
Steven F. Bolling, Ann Arbor, MI
- 11:10 AM** **Measuring Neochords: Getting the Length Perfect**
Evelio Rodriguez, Nashville, TN
- 11:20 AM** **Minimally Invasive Mitral Valve Surgery**
Gorav Ailawadi, Charlottesville, VA
- 11:30 AM** **Decalcifying Mitral Annular Calcification (MAC): How Much and When to Stop**
Michael A. Acker, Philadelphia, PA
- 11:40 AM** **Balloon-Expandable Valve to Treat MAC**
Robert L. Smith, Plano, TX
- 11:50 AM** **MitraClip Procedure**
Gilbert H. Tang, New York, NY
- 12:00 PM** **Break**

- Atrial Fibrillation Surgery**
- 1:00 PM **Biatrial Maze: Efficient Lesions**
Hersh S. Maniar, St Louis, MO
- 1:10 PM **Thoracoscopic Epicardial Maze/Left Atrial Appendage Ligation**
Gansevoort H. Dunnington, St Helena, CA
- 1:20 PM **Subxiphoid Epicardial Maze**
Thomas G. Caranasos, Chapel Hill, NC
- Aortic Valve Surgery**
- 1:30 PM **Aortic Valve Replacement: Running Suture**
Thomas G. Gleason, Pittsburgh, PA
- 1:40 PM **Percutaneous Femoral Access/Closure Devices/Iliac Complications**
T. Brett Reece, Aurora, CO
- 1:50 PM **Rapid Deployment Valve**
Michael A. Borger, New York, NY
- 2:00 PM **Root Enlargement Simplified**
Kevin D. Accola, Orlando, FL
- 2:10 PM **Transcatheter Aortic Valve Replacement (TAVR) Complications: Paravalvular Leak/Valve Malposition**
Vinod H. Thourani, Atlanta, GA
- 2:20 PM **TAVR Complication: Annular Rupture**
Thomas Walther, Leipzig, Germany
- Aortic Surgery**
- 2:30 PM **Homograft Insertion/Root Abscess**
Jose Luis Navia, Cleveland, OH
- 2:40 PM **David Procedure: Simplified**
Wilson Y. Szeto, Philadelphia, PA
- 2:50 PM **TEVAR for Chronic Type B Dissection With Aneurysm**
G. Chad Hughes, Durham, NC
- 3:00 PM **Hybrid/Arch**
Eric E. Roselli, Cleveland, OH
- Heart Failure/Weaning Catastrophe**
- 3:10 PM **Trouble Weaning: Subclavian Intra-Aortic Balloon Pump**
Valluvan Jeevanandam, Chicago, IL
- 3:20 PM **Trouble Weaning: Impella 5.0**
Vinay Badhwar, Morgantown, WV
- 3:30 PM **Trouble Weaning: Temporary Left Ventricular Assist Device (LVAD)**
Simon Maltais, Nashville, TN
- 3:40 PM **Trouble Weaning: Right Ventricular Assist Device**
Igor Gregoric, Houston, TX
- 3:50 PM **Elective LVAD Insertion**
Leora T. Yarboro, Charlottesville, VA
- 4:00 PM **Minimally Invasive HVAD**
Speaker TBD
- 4:10 PM **Pulmonary Thromboendarterectomy: Acute Pulmonary Embolism**
W. Brent Keeling, Atlanta, GA

12:00 PM – 1:00 PM

BREAK

1:00 PM – 4:00 PM

Room 370BC



Residents Symposium: Transitioning From Residency to a Successful Practice

Moderator: Ara A. Vaporciyan, Houston, TX

1:00 PM

Introduction

Edward P. Chen, Atlanta, GA, and Sidbarta P. Gangadharan, Boston, MA

Session I: Finding a Job

1:05 PM

Why I Chose Private Practice

Asad A. Shah, Durham, NC

1:15 PM

Why I Chose Academics

Shanda H. Blackmon, Rochester, MN

1:25 PM

The Mechanics of Finding a Job

Ravi K. Ghanta, Charlottesville, VA

1:40 PM

What You Need to Know About Finances

Frederick Y. Chen, Boston, MA

1:55 PM

Breakout Sessions

Session II: Transition to Practice

2:30 PM

Building a Successful Clinical Practice

Edward P. Chen, Atlanta, GA

2:45 PM

Early Career Development

Elizabeth A. David, Sacramento, CA

3:00 PM

Achieving a Successful Work-Life Balance

Sidbarta P. Gangadharan, Boston, MA

3:15 PM

Breakout Sessions

1:00 PM – 4:30 PM

Room 360BC

Resuscitation of Patients Who Arrest After Cardiac Surgery

Moderator: Joel Dunning, Middlesbrough, United Kingdom

Faculty: Richard S. Bell, Baltimore, MD, Sondra J. Ley, San Francisco, CA, Aaron Morton, Louisville, KY, and John P. Whitlock, Boston, MA

1:00 PM

Introduction

Joel Dunning, Middlesbrough, United Kingdom

1:05 PM

Arrest Practical 1: Group Simulation of Cardiac Arrest After Cardiac Surgery

1:30 PM

The Protocol for the Resuscitation of Patients Who Arrest After Cardiac Surgery

Joel Dunning, Middlesbrough, United Kingdom

2:15 PM

Arrest Practical 2: Manikin Simulation of the Arrest Protocol

3:00 PM

Cardiac Arrest Skills Stations

3:45 PM

How to Implement Resuscitation Protocols for Arrest After Cardiac Surgery in Your Own Hospital and How to Become a Trainer

Aaron Morton, Louisville, KY

1:00 PM – 4:30 PM

Room 350DEF

Surgical Symposium: Congenital Cardiac Surgery Mélange*Moderators: Jonathan M. Chen, Seattle, WA, Christopher E. Mascio, Philadelphia, PA, and Glen S. Van Arsdell, Toronto, Canada***1:00 PM Introduction***Jonathan M. Chen, Seattle, WA***1:05 PM Clinical Scenario #1****1:20 PM Video: Novel Use of Expandable Valves***Sitaram M. Emani, Boston, MA***1:28 PM Should We Offer Operations to Patients With Trisomy 13 or 18?***Aarti Bhat, Seattle, WA***1:48 PM Clinical Scenario #2****2:03 PM Video: Repair of Atrioventricular Valves in Single Ventricle Patients***Scott M. Bradley, Charleston, SC***2:11 PM Pulmonary Artery Banding for Dilated Cardiomyopathy: North American Experience***Iki Adachi, Houston, TX***2:31 PM Break****2:46 PM Clinical Scenario #3****3:01 PM Video: Advanced HeartWare Techniques***Christopher E. Mascio, Philadelphia, PA***3:09 PM Aortic Reconstruction With Autologous Pericardial "Neo-Cusps"***Speaker TBD***3:29 PM Clinical Scenario #4****3:44 PM Video: Aortopexy in Complex Airway Disease***Michael E. Mitchell, Milwaukee, WI***3:52 PM What's New in the Management of Pulmonary Vein Stenosis***Christopher A. Caldarone, Toronto, Canada***4:12 PM Discussion**

1:00 PM – 4:30 PM

Room 351DEF

✓ Surgical Symposium: "How To" Video Session: Tips and Tricks in General Thoracic Surgery*Moderators: Melanie A. Edwards, St Louis, MO, and Shari L. Meyerson, Chicago, IL***1:00 PM Introduction***Joseph B. Shrago, Stanford, CA***1:05 PM Stapled Functional End-to-End***Mark F. Berry, Stanford, CA***1:15 PM End-to-End Anastomosis via Chest/OrVil via Mouth***Robert E. Merritt, Columbus, OH***1:25 PM Ischemic Preconditioning/SPY Technology***John A. Howington, Nashville, TN***1:35 PM Panel Discussion****1:50 PM Difficult Post-Induction Dissections (Thoracotomy)***Valerie W. Rusch, New York, NY*

- 2:00 PM **Difficult Post-Induction Dissections (Minimally Invasive)**
Thomas A. D'Amico, Durham, NC
- 2:10 PM **Managing Unexpected Intraoperative Bleeding**
Scott J. Swanson, Boston, MA
- 2:20 PM **Panel Discussion**
- 2:40 PM **Break**
- 2:55 PM **Intraoperative Decision Making for Difficult Germ Cell Tumors**
Kenneth A. Kesler, Indianapolis, IN
- 3:05 PM **Tricks for Removing Larger Thymomas Minimally Invasively**
Jens Rueckert, Berlin, Germany
- 3:15 PM **A Simple Approach to Video-Assisted Thoracoscopic Diaphragm Plication**
Joseph B. Shrager, Stanford, CA
- 3:25 PM **Panel Discussion**
- 3:45 PM **Transitioning to Robotics**
Bernard J. Park, New York, NY
- 3:55 PM **What Is the Learning Curve?**
Bryan F. Meyers, St Louis, MO
- 4:05 PM **How Did an Old Dog Learn New Tricks? The Innovator**
Robert J. McKenna, Los Angeles, CA
- 4:15 PM **Panel Discussion**

2:00 PM – 6:30 PM

Hall B3

Scientific Posters

2:30 PM – 4:30 PM

Room 360A

Multidisciplinary Response to Emergencies: Strategies for Team Members

Moderators: Sondra J. Ley, San Francisco, CA, and Edward A. Ranzenbach, Sacramento, CA

- 2:30 PM **Introduction**
Edward A. Ranzenbach, Sacramento, CA
- 2:35 PM **Aortic Dissection**
Kathryn Gray DeAngelis, Philadelphia, PA
- 3:05 PM **ECMO for Respiratory and Circulatory Problems**
Michael Colligan, Houston, TX
- 3:35 PM **TAVR Emergencies**
Prakash Patel, Philadelphia, PA
- 4:05 PM **Human Factors and Teamwork in Emergency Management**
Sondra J. Ley, San Francisco, CA
- 4:25 PM **Panel Discussion**

4:30 PM – 6:30 PM

Exhibit Hall A3

Opening Reception in STS Exhibit Hall

MONDAY, JANUARY 23

6:30 AM – 5:00 PM

Room 360 Lobby

Registration

9:00 AM – 4:30 PM

Exhibit Hall A3

Exhibit Hall

9:00 AM – 4:30 PM

Hall B3

Scientific Posters

7:00 AM – 10:50 AM

Grand Ballroom

General Session I

Moderators: Joseph E. Bavaria, Philadelphia, PA, and Keith S. Naunheim, St Louis, MO

7:00 AM **Opening Remarks**

7:15 AM **J. Maxwell Chamberlain Memorial Paper for Adult Cardiac Surgery**

Natural History of Moderate Coronary Artery Stenosis After Surgical Revascularization

J. F. Sabik

Cleveland Clinic, OH

Discussant: T. Bruce Ferguson, Greenville, NC

7:35 AM **J. Maxwell Chamberlain Memorial Paper for Congenital Heart Surgery**

The Optimal Timing of Stage-2 Palliation After the Norwood Operation: A Multi-Institutional Analysis From the Congenital Heart Surgeons' Society

J. Meza

The Hospital for Sick Children, Toronto, Canada

Discussant: James M. Hammel, Omaha, NE

7:55 AM **J. Maxwell Chamberlain Memorial Paper for General Thoracic Surgery**

Prediction of Long-Term Survival Following Lung Cancer Surgery for Elderly Patients in The Society of Thoracic Surgeons General Thoracic Surgery Database

M. Onaitis

Duke University Medical Center, Durham, NC

Discussant: Mark F. Berry, Stanford, CA

8:15 AM **Richard E. Clark Memorial Paper for Adult Cardiac Surgery**
Mortality Is Reduced When Surgical Ablation for Atrial Fibrillation Is Performed Concomitantly With Mitral Operations

J. S. Rankin

West Virginia University, Morgantown, WV

Discussant: Richard Lee, St Louis, MO

8:30 AM Richard E. Clark Memorial Paper for Congenital Heart Surgery

Early Shunt Failure, Prevalence, Risk Factors, and Outcomes: An Analysis of The Society of Thoracic Surgeons Congenital Heart Surgery Database

N. Do

The Johns Hopkins Hospital, Baltimore, MD

Discussant: Emmett D. McKenzie, Houston, TX

8:45 AM Richard E. Clark Memorial Paper for General Thoracic Surgery

The Society of Thoracic Surgeons Composite Score for Evaluating Program Performance in Esophagectomy for Esophageal Cancer

A. C. Chang

University of Michigan, Ann Arbor

Discussant: Katie S. Nason, Pittsburgh, PA

9:00 AM BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

9:40 AM Introduction of the President

Richard L. Prager, Ann Arbor, MI

9:50 AM Presidential Address: Quality and Innovation in Cardiothoracic Surgery: Imperatives Colliding?

Joseph E. Bavaria, Philadelphia, PA

10:50 AM – 11:30 AM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

11:30 AM – 12:30 PM

Room 310ABC

Adult Cardiac: Arrhythmia

Moderators: Vinay Badhwar, Morgantown, WV, and Edward G. Soltesz, Cleveland, OH

11:30 AM Sex Differences in the Epidemiology of New-Onset Post-Coronary Artery Bypass Grafting Atrial Fibrillation: A Large, Multicenter Study

G. Filardo

Baylor Scott & White Health, Dallas, TX

11:45 AM Effectiveness of the Posterior Pericardiotomy in Preventing Pericardial Effusion and Atrial Fibrillation After Coronary Artery Bypass Grafting Surgery

R. Kumar Baral

Manmohan Cardiothoracic Vascular and Transplant Center, Institute of Medicine, Kathmandu, Nepal

12:00 PM Debate: A Complete Cox-Maze Only in Surgical Treatment of Atrial Fibrillation

Con: Patrick M. McCarthy, Chicago, IL

Pro: Ralph J. Damiano, St Louis, MO

11:30 AM – 12:30 PM

Room 350DEF

Basic Science Research: Adult Cardiac

Moderators: Pavan Atluri, Philadelphia, PA, and Jennifer S. Lawton, St Louis, MO

- 11:30 AM **Prevention of Aortic Aneurysm Formation and Rupture by Using Clarithromycin**
W. Uchida
Nagoya University Graduate School of Medicine, Japan
- 11:42 AM **Risk of Spinal Ischemia in Thoracic Aortic Procedures: The Influence of Number and Distribution of Anterior Radiculomedullary Arteries on Cord Perfusion**
F. Kari
Heart Center Freiburg University, Germany
- 11:54 AM **A TNF- α and Hypoxia-Induced Secretome Therapy for Myocardial Repair**
K. Selvasandran
McGill University, Montreal, Canada
- 12:06 PM **Pulsatile Characteristics of the Mechanically Actuated Fibrillating Heart Are Similar to the Native Beating Heart**
B. Schmitt
Wright State University, Dayton, OH
- 12:18 PM **Ex-Vivo Assessment of Material Characteristics in Ascending Aortic Aneurysm Tissue for Bicuspid and Trileaflet Valve Groups**
R. Beddoes
University of Calgary, Canada

11:30 AM – 12:30 PM

Room 361A

Basic Science Research: General Thoracic

Moderator: Joseph B. Shrager, Stanford, CA

- 11:30 AM **A Phase I Clinical Trial of Targeted Intraoperative Molecular Imaging for Pulmonary Adenocarcinomas**
J. Predina
University of Pennsylvania School of Medicine, Philadelphia
- 11:42 AM **HER2 Amplification Confers Resistance to Targeted Therapy in Esophageal Adenocarcinoma Cells With Concomitant Amplification of MET**
A. Goltsov
The University of Texas MD Anderson Cancer Center, Houston, TX
- 11:54 AM **18F-FDG PET Intensity Correlates with a Hypoxic Gene Signature and Other Oncogenic Abnormalities in Early Stage Non-Small-Cell Lung Cancer**
B. Heiden
University of Michigan, Ann Arbor
- 12:06 PM **Ozone Therapy Protects Against Chronic Rejection in an Orthotopic Lung Transplantation Model: A New Potential Treatment?**
N. Santana-Rodríguez
Mount Sinai Health System, New York, NY
- 12:18 PM **The Effect of Chemotherapy and Autophagy Modulation on PD-L1 Expression in Esophageal Adenocarcinoma**
R. Dhupar
University of Pittsburgh Medical Center, PA

11:30 AM – 12:30 PM

Room 360BC

Congenital: Adult Congenital

Moderators: Joseph A. Dearani, Rochester, MN, and Christopher E. Mascio, Philadelphia, PA

11:30 AM High Prevalence of Late Hypertension After Coarctation Repair: The Impact of Arch Reobstruction and Early Postoperative Hypertension

*M. Lee
Murdoch Childrens Research Institute, Melbourne, Australia*

11:45 AM Long-Term Outcome of Mustard/Senning Procedure for Patients With Complete Transposition of the Great Arteries: 50 Years' Experience

*T. Sakamoto
Tokyo Women's Medical University, Shinjuku-ku, Japan*

12:00 PM Neuropsychological Functioning and Psychosocial Outcomes in Adults With D-Transposition of the Great Arteries Corrected With the Arterial Switch Operation

*L. Kasmí
Laboratoire de Psychopathologie et Neuropsychologie, Université Paris 8, Saint Denis, France*

12:15 PM Long-Term Outcomes After Total Repair for Tetralogy of Fallot and the Predictive Factor of Pulmonary Valve Replacement: 25-Year Follow-Up

*J. Bang
Seoul National University Hospital, South Korea*

11:30 AM – 12:30 PM

Room 330AB

Critical Care

Moderators: Aaron M. Cheng, Seattle, WA, and Jay G. Shake, Jackson, MS

11:30 AM What Is the Optimal Blood Pressure on Extracorporeal Membrane Oxygenation? Impact of Mean Arterial Pressure on Survival

*D. Tanaka
Thomas Jefferson University Hospital, Philadelphia, PA*

11:45 AM Infections Occurring During Extracorporeal Membrane Oxygenation Use in Adult Patients for Postcardiotomy Heart Failure

*H. A. Welp
University Hospital Münster, Germany*

12:00 PM Cumulative Fluid Balance Is an Independent Predictor of In-Hospital Mortality in Patients Supported With Veno-Arterial Extracorporeal Membrane Oxygenation

*T. Boeve
Spectrum Health, Grand Rapids, MI*

12:15 PM Single Caregiver Nurse Model for Extracorporeal Membrane Oxygenation Can Lead to Significant Cost Savings

*F. Najam
The George Washington University Hospital, Washington, DC*

11:30 AM – 12:30 PM

Room 362A

Ethics Debate: When a Child's Heart Is Failing

Facilitator: Robert M. Sade, Charleston, SC

Pro: Mino N. Kavarana, Charleston, SC

Con: Jessica M. Turnbull, Nashville, TN

11:30 AM – 12:30 PM

Room 361BC

General Thoracic: New Technology

Moderators: Mark F. Berry, Stanford, CA, and Anthony W. Kim, New Haven, CT

11:30 AM First Report of Circumferential 3D-Printed Trachea Transplanted in a Large Animal Model

A. M. Al-Ayoubi

Icahn School of Medicine at Mount Sinai, New York, NY

11:45 AM Robotic First Rib Resection for Paget-Schroetter Disease

F. Gharagozloo

Celebration Health/Florida Hospital System, University of Central Florida

12:00 PM Phase 1 Clinical Trial Evaluating the Safety of Pulmonary Artery Branch Sealing Using an Ultrasonic Energy Vessel-Sealing Device in Video-Assisted Thoracoscopic Lobectomy

M. Liberman

CHUM Endoscopic Tracheobronchial and Oesophageal Center, University of Montreal, Canada

12:15 PM Discussion

11:30 AM – 12:30 PM

Room 320ABC

Late-Breaking Abstracts I

To view the late-breaking abstracts presented at the STS 53rd Annual Meeting, please see the handout provided with the *Abstract Book* or visit www.sts.org/annualmeeting.

11:30 AM – 12:30 PM

Room 360A

! STS Key Contacts: How to Become an Advocate for Cardiothoracic Surgery

Moderators: Joshua Krantz, Washington, DC, and Madeleine Stirling, Washington, DC

11:30 AM Panel Discussion / Q&A

Mark S. Allen, Rochester, MN, Leslie J. Kohman, Syracuse, NY, and Douglas J. Mathisen, Boston, MA

11:50 AM Legislative Presentation

Joshua Krantz, Washington, DC, and Madeleine Stirling, Washington, DC

12:00 PM Mock Congressional Meeting

Richard Lee, St Louis, MO, Keith S. Naunheim, St Louis, MO, and Jess L. Thompson, Oklahoma City, OK

12:15 PM Awards & Networking

11:30 AM – 12:30 PM

Room 351DEF

**STS/CATS/CSCS: Quality Improvement in Cardiothoracic Surgery—
Real-Life Methods to Improve Surgical Performance Within Yourself,
Your Division, and Your Specialty**

*Moderators: Sean C. Grondin, Calgary, Canada, and Colin Schieman,
Hamilton, Canada*

11:30 AM **Understanding Your Performance as an Individual and
Learning From Surgeons With Low Complication Rates –
The Concept of Positive Deviance**

Andrew J. Seely, Ottawa, Canada

11:45 AM **Improving the Quality of Cardiothoracic Surgery on a
National Scale – Moving From Data to Changes in Care**

Susan D. Moffatt-Bruce, Columbus, OH

12:00 PM **Public Reporting of Quality Metrics – How Will This Affect
and Improve Your Practice?**

David A. Fullerton, Aurora, CO

12:15 PM **Panel Discussion**

12:30 PM – 1:30 PM

BREAK—Visit Exhibits and Scientific Posters

1:15 PM – 5:15 PM

Room 330AB

**ACC @ STS: Cardiologists and Surgeons Tackling Complex Clinical
Scenarios as a Heart Team**

*Moderators: Niv Ad, Falls Church, VA, Jodie Hurwitz, Dallas, TX, Roxana
Mehran, New York, NY, Patrick T. O’Gara, Boston, MA, Joseph F. Sabik,
Cleveland, OH, and Vinod H. Thourani, Atlanta, GA*

Heart Team Approach (Aortic Valve)

1:15 PM **Case Presentation 1**

Mathew R. Williams, New York, NY

1:20 PM **Lessons Learned From the STS/ACC TVT Registry™**

Vinod H. Thourani, Atlanta, GA

1:30 PM **In the Era of Transcatheter Aortic Valve Replacement
(TAVR), Who Is Low-Risk for Surgical AVR and Predictions
for Management of AS in 2020**

Michael J. Mack, Dallas, TX

1:40 PM **Are We Ready for Asymptomatic Patients or Those With
Moderate AS and Heart Failure to Have SAVR or TAVR?**

Patrick T. O’Gara, Boston, MA

1:50 PM **What I Have Learned About TAVR in Failed Surgical
Bioprosthetic Valves**

Richard W. Smalling, Houston, TX

2:00 PM **Panel Discussion and Case Presentation Wrap-Up**

Tom C. Nguyen, Houston, TX

Heart Team Approach (Atrial Fibrillation)

2:16 PM **Case Presentation 2**

Niv Ad, Falls Church, VA

2:21 PM **Which Patients Are Optimal for Transcatheter Atrial
Fibrillation Management?**

Jodie Hurwitz, Dallas, TX

- 2:31 PM **How I Decide Between Biatrial or Left Atrial-Only Surgical Ablation Surgery**
Vinay Badhwar, Morgantown, WV
- 2:41 PM **How to Do It: Biatrial Ablation**
Marc R. Moon, St Louis, MO
- 2:51 PM **Panel Discussion and Case Presentation Wrap-Up**
- 3:05 PM **Break**
- Heart Team Approach (Coronary Artery Disease)**
- 3:25 PM **Case Presentation 3**
Speaker TBD
- 3:30 PM **Which Patients With Multivessel Disease Are Best Treated Percutaneously?**
Roxana Mebran, New York, NY
- 3:40 PM **How to Do It: Options for Non-Sternotomy Multivessel CABG**
Marc Ruel, Ottawa, Canada
- 3:50 PM **My Worst CABG Case and How I Got Out of It**
David A. Fullerton, Aurora, CO
- 4:00 PM **Panel Discussion and Case Presentation Wrap-Up**
- Heart Team Approach (Mitral Regurgitation)**
- 4:15 PM **What Surgeons Should Know About the ACC/AHA Valve Guidelines**
Patrick T. O'Gara, Boston, MA
- 4:25 PM **How I Decide Management of the Patient With Functional Mitral Regurgitation**
Tirone E. David, Toronto, Canada
- 4:35 PM **Update on Transcatheter Mitral Valve Devices**
Gorav Ailawadi, Charlottesville, VA
- 4:45 PM **My Worst Transcatheter MV Case and How I Got Out of It**
Vinod H. Thourani, Atlanta, GA
- 5:00 PM **Panel Discussion and Case Presentation Wrap-Up**

1:15 PM – 5:15 PM

Room 351DEF

Redefining Practice Through Quality and Evidence: What's New

Moderators: Vinay Badhwar, Morgantown, WV, and Jeffrey P. Jacobs, St Petersburg, FL

- 1:15 PM **Introduction**
- 1:20 PM **STS Clinical Practice Guidelines: What's New**
Faisal G. Bakaen, Cleveland, OH
- 1:50 PM **Q&A**
- 2:10 PM **Impact of Medicaid Expansion on Cardiac Surgery Volume and Outcomes**
*E. J. Charles
University of Virginia Health System, Charlottesville*
- 2:20 PM **Good at One, or Good at All? Correlation of Outcomes Between Coronary Artery Bypass Grafting and Valve Surgery Among Centers**
*L. E. Johnston
University of Virginia, Charlottesville*

- 2:30 PM** **Economic Impact of an Enhanced Recovery Pathway for Lung Resection**
A. Madani
McGill University, Montreal, Canada
- 2:40 PM** **Patient Race Influences Risk Assessment and Recommendations for Lung Resection**
M. K. Ferguson
The University of Chicago, IL
- 2:50 PM** **Quality Measurement: What's New**
David M. Shabian, Boston, MA
- 3:05 PM** **STS National Database and National Quality Forum: What's New**
Jeffrey P. Jacobs, St Petersburg, FL
- 3:20 PM** **Break**
- 3:35 PM** ***Staphylococcus aureus* Prevention Strategies in Cardiac Surgery: A Cost Effectiveness Analysis**
J. Hong
The Johns Hopkins University School of Public Health, Baltimore, MD
- 3:45 PM** **Multicenter Quality Improvement Project to Prevent Sternal Wound Infections in Pediatric Cardiac Surgery Patients**
C. Woodward
The University of Texas Health Science Center, San Antonio
- 3:55 PM** **A Prospective Multi-Institutional Cohort Study of Mediastinal Infection After Cardiac Surgery**
L. P. Perrault
Montreal Heart Institute, Canada
- 4:05 PM** **The Use of Bacitracin for Preventing Sternal Wound Infections Following Cardiac Surgery**
J. L. Chan
National Heart, Lung, and Blood Institute, Bethesda, MD
- 4:15 PM** **Public Reporting: What's New**
Vinay Badhwar, Morgantown, WV
- 4:30 PM** **Physician Reimbursement – Current Procedural Terminology and Relative Value Scale Update Committee: What's New**
Stephen J. Labey, Farmington, CT, and Francis C. Nichols, Rochester, MN
- 4:45 PM** **Q&A**

1:30 PM – 3:30 PM

Room 310ABC

Adult Cardiac: Aorta I

Moderators: Edward P. Chen, Atlanta, GA, and Thomas G. Gleason, Pittsburgh, PA

- 1:30 PM** **Concomitant Antegrade Stent Grafting of the Descending Thoracic Aorta During Transverse Hemiarch Reconstruction for Acute DeBakey I Aortic Dissection Repair Improves Aortic Remodeling**
I. Sultan
University of Pittsburgh, PA

- 1:45 PM** **Aortic Valve-Sparing David I Procedure Has Excellent Long-Term Results in Elective Patients: A Single-Center Experience Over 20 Years**
M. L. Shrestha
Hanover Medical School, Germany
- 2:00 PM** **Valve-Sparing Root Replacement to Facilitate Aortic Valve Repair in Moderately Dilated Aortic Roots – Is It Justifiable?**
F. Hage
University of Ottawa Heart Institute, Canada
- 2:15 PM** **The Florida Sleeve Procedure Is Durable and Improves Aortic Valve Function**
S. Aalaei-Andabili
University of Florida, Gainesville
- 2:30 PM** **Outcomes of Reoperation With Conventional and Frozen Elephant Trunk Procedures After Acute Type A Dissection Repair**
J. J. Idrees
Cleveland Clinic, OH
- 2:45 PM** **Safety of Moderate Hypothermia in Total Aortic Arch Replacement With Antegrade Cerebral Perfusion: A Report of More than 3,000 Patients From the ARCH Database**
W. B. Keeling
Emory University, Atlanta, GA
- 3:00 PM** **Debate: Should a Moderately Dilated Ascending Aorta (4.6-5.4 cm) Be Replaced in a Patient With a Normally Functioning Bicuspid Aortic Valve?**
Pro: Lars G. Svensson, Cleveland, OH
Con: Thomas G. Gleason, Pittsburgh, PA

1:30 PM – 3:30 PM

Room 320ABC

Adult Cardiac: Ischemic

Moderators: Richard L. Prager, Ann Arbor, MI, and Elaine E. Tseng, San Francisco, CA

- 1:30 PM** **Utilization of Multiarterial Grafting During Coronary Artery Bypass Grafting Across the Predicted Risk of Mortality Spectrum: Impact on Short- and Long-Term Survival**
W. B. Keeling
Emory University, Atlanta, GA
- 1:45 PM** **Should Coronary Revascularization With Bilateral Internal Mammary Arteries Be the Default Approach?**
J. DeSimone
Dartmouth-Hitchcock Medical Center, Lebanon, NH
- 2:00 PM** **Should Diabetes Be a Contraindication to Bilateral Internal Mammary Artery Grafting? A Multicenter Analysis**
A. Iribarne
Dartmouth-Hitchcock Medical Center, Lebanon, NH
- 2:15 PM** **Video: How I Do Internal Mammaries**
Faisal G. Bakaeen, Cleveland, OH

- 2:35 PM **Hybrid Coronary Revascularization vs On-Pump Coronary Artery Bypass Grafting: Comparative Effectiveness Analysis With Long-Term Follow-Up**
V. Giambruno
Western University, London Health Sciences Centre, Canada
- 2:50 PM **How I Do Hybrid Coronary Revascularization**
Michael E. Halkos, Atlanta, GA
- 3:10 PM **How to Build a Coronary Artery Bypass Grafting Bundle**
Alan M. Speir, Falls Church, VA

1:30 PM – 3:30 PM

Room 360BC

Congenital: Pediatric Congenital I

Moderators: Jonathan M. Chen, Seattle, WA, and Ralph S. Mosca, New York, NY

- 1:30 PM **Left-Sided Operations After Arterial Switch Operation for D-TGA and DORV-TGA Type: A Multicenter European Congenital Heart Surgeons Association Study**
V. Vida
University of Padua, Italy
- 1:45 PM **Improving Results of Surgery for Ebstein's Anomaly: Where Are We After 235 Cone Repairs?**
K. Holst
Mayo Clinic, Rochester, MN
- 2:00 PM **Promising Mid-Term Functional Outcomes of Anatomic Correction of Corrected Transposition of the Great Arteries**
V. Hraska
German Pediatric Heart Center, Sankt Augustin, Germany
- 2:15 PM **Excision of Systemic Atrioventricular Valve Facilitates Placement of Continuous Flow Ventricular Assist Devices in Pediatric Patients With Congenital Heart Disease**
D. Nandi
The Children's Hospital of Philadelphia, PA
- 2:30 PM **Liver Disease After the Fontan: Report From the ACC Consortium**
Speaker TBD
- 2:45 PM **An Optimal Organ Acceptance Rate for Pediatric Heart Transplantation: Is There a "Sweet Spot?"**
C. Park
Cincinnati Children's Hospital Medical Center, OH
- 3:00 PM **Long-Term Outcomes After Extracardiac Fontan Takedown to an Intermediate Palliative Circulation**
M. Trezzi
Bambino Gesù Children's Hospital, Rome, Italy
- 3:15 PM **Determinants of Adverse Outcomes After Systemic-to-Pulmonary Shunts in Biventricular Circulation: The Melbourne Experience 2004-2014**
J. Brink
The Royal Children's Hospital, Melbourne, Australia

MONDAY AFTERNOON

1:30 PM – 3:30 PM

Room 361BC

General Thoracic: Lung Cancer I

Moderators: David T. Cooke, Sacramento, CA, and Thomas K. Varghese Jr, Salt Lake City, UT

- 1:30 PM **Noadjuvant Chemotherapy and Radiation Show No Survival Advantage Over Chemotherapy Alone in Stage IIIA Patients: A Propensity Score-Matched Analysis of the National Cancer Database**
S. B. Krantz
NorthShore University Health System, Evanston, IL
- 1:45 PM **Concomitant Mediastinoscopy Increases the Risk of Postoperative Pneumonia After Thoracoscopic Lobectomy**
S. Yendamuri
Roswell Park Cancer Institute, Buffalo, NY
- 2:00 PM **Sleeve Pulmonary Resection in the United States: Analysis of National Trends, Practice Patterns, and Outcomes from the National Cancer Database**
Z. Abdelsattar
Mayo Clinic, Rochester, MN
- 2:15 PM **Timeliness of Care and Lung Cancer T-stage Progression: How Long Can We Wait?**
A. Maiga
Vanderbilt University Medical Center, Nashville, TN
- 2:30 PM **Radiological Classifications of Multiple Lung Cancers and the Prognostic Impacts Based on the Presence of Ground Glass Opacity Component on Thin-Section Computed Tomography**
A. Hattori
Juntendo University, Tokyo, Japan
- 2:45 PM **Caprini Risk Assessment Model Implementation Decreases Venous Thromboembolism Rates in High-Risk Thoracic Surgery Patients at a Safety Net Hospital**
H. Sterbling
Boston University School of Medicine, MA
- 3:00 PM **Debate: A Lung Cancer Bundle Is Possible**
Pro: Wayne L. Hofstetter, Houston, TX
Con: Daniel L. Miller, Marietta, GA

1:30 PM – 3:30 PM

Room 361A

General Thoracic: Lung Transplantation

Moderators: Errol L. Bush, San Francisco, CA, and Daniel Kreisel, St Louis, MO

- 1:30 PM **Low Mortality and Morbidity After Lung Volume Reduction Surgery in Emphysema Patients With Severely Impaired Diffusion Capacity**
C. Caviezel
University Hospital Zurich, Switzerland
- 1:45 PM **Long-Term Survival in Bilateral Lung Transplantation for Scleroderma-Related Lung Disease**
E. Y. Chan
Houston Methodist Hospital, TX
- 2:00 PM **Extracorporeal Membrane Oxygenation for Acute Lung Injury**
Jonathan W. Haft, Ann Arbor, MI

- 2:15 PM **Young Recipients, Old Lungs: Does Double vs Single Lung Transplant Affect Overall Survival?**
P. Henley
University of Louisville, KY
- 2:30 PM **Lung Replantation for Chronic Rejection: A Single-Center Experience**
S. Biswas Roy
Norton Thoracic Institute, St Joseph's Hospital and Medical Center, Phoenix, AZ
- 2:45 PM **Debate: Lung Replantation Is an Appropriate Option**
Pro: Robert Duane Davis, Durham, NC
Con: Thomas K. Waddell, Toronto, Canada
- 3:15 PM **Discussion**

1:30 PM – 3:30 PM

Room 360A

International Symposium: The Quality vs Access Dilemma in Cardiothoracic Surgery—Regionalization, Building Sustainable Cardiothoracic Surgery Programs, and Humanitarian Crises

Moderator: A. Pieter Kappetein, Rotterdam, The Netherlands

- 1:30 PM **The Quality vs Access Issue**
Juan P. Umana, Bogota, Colombia
- 1:40 PM **Debate: Regionalization/Specialization**
Pro: Speaker TBD
Con: Speaker TBD
- 2:00 PM **Establishing Sustainable Cardiothoracic Surgery Programs in Underserved Countries**
Kathleen N. Fenton, Memphis, TN
- 2:15 PM **Creating a Cardiothoracic Surgery Program Where None Has Existed Before**
Peter Zilla, Cape Town, South Africa
- 2:30 PM **Quality, Access, Financial, and Ethical Challenges Involved in the Syrian Refugee Crisis: The Experience in Turkey**
Adnan Cobanoglu, Portland, OR
- 2:45 PM **Quality, Access, Financial, and Ethical Challenges Involved in the Syrian Refugee Crisis: The Experience in Germany**
Speaker TBD
- 3:00 PM **The Global Challenge of Treating Noncommunicable Diseases, Including Cardiothoracic Diseases**
David A. Fullerton, Aurora, CO
- 3:15 PM **Q&A**

1:30 PM – 3:30 PM

Room 350DEF

SVS @ STS: Sharing Common Ground for Cardiovascular Problems

Moderators: Keith B. Allen, Kansas City, MO, and Jason T. Lee, Stanford, CA

- 1:30 PM **Introduction**
- 1:35 PM **Current Management Options for Arch Pathology**
Wilson Y. Szeto, Philadelphia, PA
- 1:50 PM **Management of the Left Subclavian Artery During Endovascular Repair of the Aorta**
Carlos F. Bechara, Houston, TX
- 2:05 PM **Discussion**

MONDAY AFTERNOON

2:25 PM **Cell Therapy for “No Option” Patients With Critical Limb Ischemia: Current Status**

Michael P. Murphy, Indianapolis, IN

2:40 PM **Cell Therapy for “No Option” Patients With Medically Refractory Angina: Current Status**

Todd K. Rosengart, Houston, TX

2:55 PM **Cell Therapy for End-Stage Congestive Heart Failure: Current Status**

Amit N. Patel, Salt Lake City, UT

3:10 PM **Discussion**

3:30 PM – 4:15 PM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

4:15 PM – 5:15 PM

Room 320ABC

Surgical Motion Picture Matinee: Adult Cardiac

Moderators: Derek R. Brinster, New York, NY, and Bradley G. Lesbrower, Atlanta, GA

4:15 PM **Endoscopic Robotic Septal Myectomy With Very Large Patch Augmentation of the Anterior Mitral Valve Leaflet for Hypertrophic Cardiomyopathy: A Radical Paradigm Change**

T. S. Guy

New York–Presbyterian Hospital, Weill Cornell Medical College, New York, NY

4:27 PM **Minimally Invasive Bicuspid Aortic Valve Repair and Valve-Sparing Root Replacement With Hemiarch Replacement**

I. Sultan

University of Pittsburgh, PA

4:39 PM **Prosthetic Surgical Tissue Valve Enlargement Using a High-Pressure Balloon (Fracturing the Ring) to Facilitate Transcatheter Valve-in-Valve Implantation**

K. B. Allen

St Luke's Mid America Heart Institute, Kansas City, MO

4:51 PM **Implantation of HeartMate 3 Left Ventricular Assist Device Through Left Lateral Thoracotomy**

T. Krabatsch

German Heart Institute Berlin

5:03 PM **A Simple Technique of Arch Debranching to Facilitate Total Endovascular Arch Replacement in Chronic Residual Arch Dissection**

N. Desai

University of Pennsylvania, Philadelphia

4:15 PM – 5:15 PM

Room 360BC

Surgical Motion Picture Matinee: Congenital

Moderators: James J. Gangemi, Charlottesville, VA, and Mark W. Turrentine, Indianapolis, IN

4:15 PM **Side-to-Side Bronchus Suis Tracheoplasty for Reconstruction of Complex Tracheobronchial Stenosis**

W. Ragalie

Medical College of Wisconsin, Milwaukee

- 4:27 PM **Resection, Rerouting, and Reconstruction of the Aorta to Correct Tracheal Compression Secondary to a Vascular Ring**
L. Donahoe
University of Toronto, Canada
- 4:39 PM **Pulmonary Annuloplasty for Severe Pulmonary Regurgitation in a Patient Undergoing the Norwood Operation**
Y. Kotani
Okayama University, Japan
- 4:51 PM **Resection of Left Ventricular Tumor, Berlin Heart Implantation, and Neonatal Cardiac Transplantation**
M. Huebler
University Children's Hospital Zurich, Switzerland
- 5:03 PM **How to Address the Dilated Aortic Root in Fontan Patients**
Christian Pizarro, Wilmington, DE

4:15 PM – 5:15 PM

Room 361BC

Surgical Motion Picture Matinee: General Thoracic

Moderators: Melanie A. Edwards, St Louis, MO, and Shari L. Meyerson, Chicago, IL

- 4:15 PM **Staple-Free, Totally Energized Video-Assisted Thoracoscopic Lobectomy**
R. L. Oliveira
CHUM, Montreal, Canada
- 4:27 PM **Robot-Assisted Right Lower Lobe Sleeve Lobectomy**
S. Atay
The University of Texas MD Anderson Cancer Center, Houston
- 4:39 PM **A Novel Subxiphoid “Three-Hole” Approach for Cut of Thymoma Invasive Left Innominate Veins and Pericardium**
J. Wang
Tangdu Hospital of The Fourth Military Medical University, Xi'an, China
- 4:51 PM **Fluorescent Thoracoscopic Right Upper Apicoposterior Segmentectomy for Early Lung Cancer: Real-Time Visualization of Lymphatic Flow and Segmental Anatomy Using Indocyanine Green**
K. Han
Korea University Guro Hospital, Seoul, South Korea
- 5:03 PM **Intercostal to Intercostal Nerve Reconstruction Surgery for Severe Compensatory Hyperhidrosis: The “Gebitekin Technique”**
C. Gebitekin
Uludag University, Bursa, Turkey

4:15 PM – 5:15 PM

Room 350DEF

The Annals Academy: Propensity Score Matching

Moderators: Graham A. Colditz, St Louis, MO, and G. Alexander Patterson, St Louis, MO

- 4:15 PM **Introduction**
- 4:20 PM **Rationale for Propensity Scores in Observational Data**
Margaret Olsen, St Louis, MO

MONDAY AFTERNOON

- 4:30 PM** **Theory of Propensity Scores**
Margaret Olsen, St Louis, MO
- 4:40 PM** **Generating Propensity Scores**
Varun Puri, St Louis, MO
- 4:50 PM** **Methods to Use Propensity Scores and Respective Analysis**
Varun Puri, St Louis, MO
- 4:55 PM** **How to Report Findings for Publication**
Graham A. Colditz, St Louis, MO
- 5:00 PM** **Alternative Methods When Propensity Scores Are Not Indicated**
Graham A. Colditz, St Louis, MO
- 5:05 PM** **Q&A**

5:15 PM – 6:30 PM **Grand Ballroom Foyer**

Scientific Posters and Wine

5:30 PM – 6:30 PM **Room 310ABC**

Business Meeting (STS Members Only)

6:30 PM – 7:30 PM **Meeting Room 340, Hilton Americas-Houston**

STS-PAC Reception

7:30 PM – 10:30 PM

 **STS Social Event: Space Center Houston**

Join your colleagues at the 2017 STS Social Event at the Space Center Houston, the official visitor's center of NASA's Johnson Space Center. In addition to enjoying an extensive buffet and open bar, you'll be able to check out artifacts documenting the history of space travel, including a collection of spacesuits worn by NASA astronauts, the Apollo 17 Command Module, the giant Skylab Trainer, and more. Don't miss this opportunity! Purchase a ticket at Registration. *Shuttle buses depart from all official STS hotels beginning at 6:45 PM.*

TUESDAY, JANUARY 24

6:30 AM – 4:30 PM

Room 360 Lobby

Registration

7:30 AM – 8:30 AM

Various locations; see below

Early Riser Sessions

Early Riser Session 1

Room 351DEF

Career Transitions: How to Prepare for Life After the OR

Mary Brandt, Houston, TX, Mark R. Katlic, Baltimore, MD, Leslie J. Kobman, Syracuse, NY, and Valerie A. Williams, Cincinnati, OH

Early Riser Session 2

Room 360A

Research Using the STS National Database™

Felix G. Fernandez, Atlanta, GA, Robert Habib, Chicago, IL, Jeffrey P. Jacobs, St Petersburg, FL, and Marshall L. Jacobs, Newtown Square, PA

 Early Riser Session 3

Room 362A

Clinical Trials in Cardiothoracic Surgery

Shanda H. Blackmon, Rochester, MN, and Linda W. Martin, Baltimore, MD

Early Riser Session 4

Room 362BC

SBRT vs Surgery: A Debate With a Twist

Traves Crabtree, Springfield, IL, and Clifford Robinson, St Louis, MO

Early Riser Session 5

Room 310ABC

Management of Functional Mitral Regurgitation in the Modern Era

Gorav Ailawadi, Charlottesville, VA, Pavan Atluri, Philadelphia, PA, and Robert S. Farvihar, Minneapolis, MN

Early Riser Session 6

Room 360BC

Robotic Lung Resection vs VATS for Lung Cancer

M. Blair Marshall, Washington, DC, and Inderpal Sarkaria, Pittsburgh, PA

 Early Riser Session 7

Room 361BC

All-Arterial CABG vs Hybrid CABG vs Multivessel PCI: What Is the New Standard for Revascularization?

Juan Grau, Ridgewood, NJ, Michael E. Halkos, Atlanta, GA, and John T. Schindler, Pittsburgh, PA

Early Riser Session 8

Room 330AB

Learning From My Mistakes: A Case I Wish I Could Do Over

J. William Gaynor, Philadelphia, PA, and Christopher E. Mascio, Philadelphia, PA

Early Riser Session 9

Room 361A

Improving Combat Casualty Care: The Use of Golden Hour Offset Trauma (GHOST) Surgical Teams and Group O Low-Titer Whole Blood Transfusion in the Field

Theodore C. Koutlas, Coeur d'Alene, ID, and Jeffrey C. Johnson, Portsmouth, VA

Early Riser Session 10

Room 350DEF

Developing an Extracorporeal Life Support Program

Edwin C. McGee, Maywood, IL, and David M. McMullan, Seattle, WA

7:30 AM – 8:30 AM

Room 320ABC

Early Riser Health Policy Forum

Ready or Not: Implementing the New Merit-Based Incentive Payment System in Your Practice Today

Moderator: Alan M. Speir, Falls Church, VA

9:00 AM – 3:30 PM

Exhibit Hall A3

Exhibit Hall

9:00 AM – 5:00 PM

Hall B3

Scientific Posters

8:45 AM – 12:00 PM

Grand Ballroom

General Session II

Moderators: Joseph E. Bavaria, Philadelphia, PA, and Keith S. Naunheim, St Louis, MO

8:45 AM

Results of the STS TAVR Survey

Joseph E. Bavaria, Philadelphia, PA

9:00 AM

Thomas B. Ferguson Lecture: Specialty Care in an Age of Population Health

Ralph W. Muller, Philadelphia, PA

10:00 AM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

10:45 AM

Award Presentations

11:00 AM

C. Walton Lillehei Lecture

Samer Nashef, Cambridge, United Kingdom

12:00 PM – 1:00 PM

BREAK—Visit Exhibits and Scientific Posters

12:00 PM – 1:00 PM

Room 370BC

 **Residents Luncheon**

1:00 PM – 3:00 PM

Room 320ABC

Adult Cardiac: General

Moderators: Francis D. Ferdinand, Albany, NY, and Thomas E. MacGillivray, Houston, TX

1:00 PM

In Elective Arch Surgery, Does the Site of Arterial Cannulation for Circulatory Arrest Really Matter?

O. A. Preventza

Baylor College of Medicine/Texas Heart Institute, Houston

- 1:15 PM** **Risk Evaluation System Based on Genetic Background (GenoSCORE) for Predicting Long-Term Prognosis After Coronary Artery Bypass Grafting**
H. Liu
National Center for Cardiovascular Diseases, Furwai Hospital, Chinese Academy of Medical Sciences, and Peking Union Medical College, Beijing
- 1:30 PM** **Impact of Regional Collaboration on Quality Improvement and Associated Cost Savings in Coronary Artery Bypass Grafting Surgery**
J. B. Rich
Virginia Cardiac Services Quality Initiative, Virginia Beach
- 1:45 PM** **The Association Between Timing of Preoperative Clopidogrel Discontinuation, Platelet Reactivity, and Bleeding Complications in Patients Undergoing Coronary Artery Bypass Grafting Surgery**
M. Petricevic
University Hospital Centre Zagreb, Croatia
- 2:00 PM** **A Randomized Study Comparing the Relative Cost Effectiveness of Two Types of Endoscopic vs Traditional Open Vein Harvesting for Coronary Artery Bypass Grafting Surgery**
B. Krishnamoorthy
University Hospital of South Manchester NHS Foundation Trust, United Kingdom
- 2:15 PM** **Rapid Deployment Aortic Valve Replacement Facilitates the Implantation of Larger Prostheses With Increased Indexed Effective Orifice Areas While Significantly Reducing Procedure Times Compared to Standard Tissue AVR in a Propensity-Matched Cohort**
P. B. Rahmanian
University Hospital Cologne, Germany
- 2:30 PM** **Transmitral Septal Myomectomy for Hypertrophic Obstructive Cardiomyopathy**
B. P. Webman
University of Maryland School of Medicine, Baltimore
- 2:45 PM** **Discussion**

1:00 PM – 3:00 PM

Room 310ABC

Adult Cardiac: Mitral and Tricuspid Valves*Moderators: Richard Lee, St Louis, MO, and Brett C. Sheridan, San Francisco, CA*

- 1:00 PM** **Should $\leq 2+$ Functional Tricuspid Regurgitation Be Repaired During Surgery for Degenerative Mitral Valve Disease?**
K. Ravichandren
Cleveland Clinic, OH
- 1:15 PM** **Long-Term Results of Annuloplasty in Trivial-to-Mild Functional Tricuspid Regurgitation During Mitral Valve Replacement: Should We Perform Annuloplasty on the Tricuspid Valve or Leave It Alone?**
J. Choi
Seoul National University Hospital, South Korea

- 1:30 PM **Debate: Should Concomitant Repair of Moderate Tricuspid Regurgitation Be Performed During Mitral Valve Surgery?**
No: Michael A. Acker, Philadelphia, PA
Yes: Steven F. Bolling, Ann Arbor, MI
- 2:00 PM **Early European Experience With Echo-Guided Transapical Off-Pump Mitral Valve Repair With NeoChord Implantation**
A. Colli
University of Padua, Italy
- 2:15 PM **Mitral Valve Repair vs Replacement in Patients With Functional Mitral Regurgitation Undergoing Complex Cardiac Surgery**
N. B. Langer
New York–Presbyterian Hospital/Columbia University Medical Center, New York, NY
- 2:30 PM **Debate: Bioprosthetic Mitral Valve Replacement Is the Optimal Choice for the Young Patient Less than 60 Years Old**
Yes: Gorav Ailawadi, Charlottesville, VA
No: Joseph A. Dearani, Rochester, MN

1:00 PM – 3:00 PM

Room 360BC

Congenital: Pediatric Congenital II

Moderators: Carlos M. Mery, Houston, TX, and Christian Pizarro, Wilmington, DE

- 1:00 PM **Incidence and Impact of Recurrent Laryngeal Nerve and Swallowing Dysfunction in Neonatal Aortic Arch Repair**
K. K. Pourmoghadam
The Heart Center at Arnold Palmer Hospital For Children, Orlando, FL
- 1:15 PM **Aortic Stenosis of the Neonate: A 26-Year, Single-Center Experience**
M. Vergnat
German Pediatric Heart Center, Sankt Augustin
- 1:30 PM **Hybrid Balloon Valvuloplasty Through the Ascending Aorta via Median Sternotomy in Infants With Severe Congenital Valvular Aortic Stenosis: Immediate Results and Mid-Term Follow-Up**
X. Pan
National Center for Cardiovascular Diseases, Fuwai Hospital, Chinese Academy of Medical Sciences, and Peking Union Medical College, Beijing
- 1:45 PM **Primary Pulmonary Vein Stenosis: Outcomes, Prognostic Factors, and Severity Score in a Multicenter Study**
D. Kalfa
Columbia University Medical Center, New York–Presbyterian/Morgan Stanley Children's Hospital, New York, NY
- 2:00 PM **New Approaches to Bleeding in Congenital Heart Patients**
Erin A. Gottlieb, Houston, TX
- 2:15 PM **Higher Programmatic Volume in Neonatal Heart Surgery Is Associated With Lower Early Mortality**
A. Kansy
Children's Memorial Health Institute, Warsaw, Poland

- 2:30 PM** **Parent Preferences Regarding Public Reporting of Outcomes in Congenital Heart Surgery: A Cross-Sectional Survey of Parents of Children With Congenital Heart Disease**
M. L. Irons
Hospital of the University of Pennsylvania, Philadelphia
- 2:45 PM** **Effect of Antifibrinolytic Drugs on Pulmonary Function in Neonates Undergoing the Norwood Procedure**
G. Hoffman
Children's Hospital and Medical College of Wisconsin, Milwaukee

1:00 PM – 3:00 PM

Room 330AB

EACTS @ STS: Management of Distal Type B Aortic Dissection*Moderators: Joseph E. Bavaria, Philadelphia, PA, and Ruggero De Paulis, Rome, Italy*

- 1:00 PM** **Introduction to the Type B Dissection Treatment Conundrum**
Joseph E. Bavaria, Philadelphia, PA, and Ruggero De Paulis, Rome, Italy
- 1:10 PM** **Presentation of a Newly Designed Thoracic Aortic Surgery Module: An Initial Report From the STS Adult Cardiac Surgery Database**
Nimesh D. Desai, Philadelphia, PA
- 1:15 PM** **The Impact of Thoracic Endovascular Aortic Repair on Long-Term Survival in Type B Aortic Dissection**
B. G. Lesnower
Emory University, Atlanta, GA
- 1:30 PM** **Frozen Elephant Trunk Procedure for Type A and B Dissection**
Heinz G. Jakob, Essen, Germany
- 1:45 PM** **Twelve-Month Outcomes of Patients Treated for Chronic Symptomatic Aortic Dissection Using the Streamliner Multilayer Flow Modulator**
S. Sherif
Galway University Hospitals, Ireland
- 2:00 PM** **Open Thoracoabdominal Aortic Aneurysm Surgery vs TEVAR for Chronic Type B Dissection**
G. Chad Hughes, Durham, NC
- 2:15 PM** **The Impact of Initial Aortic Diameter and the Larger Area Ratio of False Lumen on Stanford Type B Aortic Dissection Prognosis**
A. Matsushita
Seikeikai Chiba Medical Center, Japan
- 2:30 PM** **TEVAR vs Medical Management for Acute Uncomplicated Type B Dissection: Are There High-Risk Features Worthy of Consideration?**
Davide Pacini, Bologna, Italy
- 2:45 PM** **Predictors of Remodeling of the Distal Aorta in Patients Who Underwent TEVAR for Chronic Type B Aortic Dissection**
I. Sultan
University of Pittsburgh, PA

1:00 PM – 3:00 PM

Room 361A

! Electronic Learning and Innovation in Education*Moderators: Mark S. Allen, Rochester, MN, and Edward D. Verrier, Seattle, WA***1:00 PM Adapting the New STS Learning Management System into Your Program***Ara A. Vaporciyan, Houston, TX***1:20 PM Discussion****1:20 PM Assessment Review***Stephen C. Yang, Baltimore, MD***1:40 PM eMTRCS Milestone Application***Nabush A. Mokadam, Seattle, WA***2:00 PM Resident-Faculty Feedback Application***Shari L. Meyerson, Chicago, IL***2:20 PM Discussion**

1:00 PM – 3:00 PM

Room 351DEF

General Thoracic: Esophageal*Moderators: Daniela Molena, New York, NY, and Christopher R. Morse, Boston, MA***1:00 PM Revisional Surgery Following Esophagectomy: Straight Talk About the Conduit***E. G. Chan**University of Pittsburgh Medical Center, PA***1:15 PM Induction Therapy Before Esophagectomy Improves Overall Survival in Patients With Clinical T3N0 Esophageal Cancer: A Nationwide Study in Taiwan***Y. Chao**Chang Gung Memorial Hospital, Kweisan, Taiwan***1:30 PM Is Open Esophagectomy Still the Gold Standard in the Treatment of Esophageal Cancer? A National Cancer Database Study***B. Weksler**University of Tennessee Health Science Center, Memphis***1:45 PM Patient Response to Neoadjuvant Chemoradiotherapy Predicts Overall and Disease-Free Survival in Locally Advanced Esophageal Cancer***A. Knight**Mayo Clinic, Rochester, MN***2:00 PM Local and Population-Level Analyses of Extent and Risk Factors of Readmission Within 1 Year of Esophagectomy***B. Kidane**University of Toronto, Canada***2:15 PM A Nationwide Rise in the Use of Stents to Manage Benign Esophageal Perforation***L. Thornblade**University of Washington, Seattle***2:30 PM Predictors of Failure to Rescue After Esophagectomy***D. Z. Liou**Cedars-Sinai Medical Center, Los Angeles, CA*

2:45 PM Postoperative Complications Drive Unplanned Readmissions After Esophagectomy

R. Bhagat

University of Colorado School of Medicine, Aurora

1:00 PM – 3:00 PM

Room 361BC

General Thoracic: Lung Cancer II

Moderators: Mara B. Antonoff, Houston, TX, and Farhood Farjab, Seattle, WA

1:00 PM Defining Selection Bias: Development of a Surgical Selection Score for Advanced Stage Non-Small-Cell Lung Cancer Patients

E. A. David

University of California, Davis Medical Center, Sacramento

1:15 PM Early and Long-Term Results of Tracheal Sleeve Pneumonectomy for Lung Cancer After Induction Chemotherapy

D. Galetta

European Institute of Oncology, Milan, Italy

1:30 PM Lung Cancer Screening in the Community Setting: Challenges for Adoption

S. Randhawa

Einstein Healthcare Network, Philadelphia, PA

1:45 PM Lymph Node Assessment Is Necessary for Surgical Treatment of Patients With Clinical Stage T1aN0M0 Typical Carcinoid Tumors

L. M. Brown

University of California, Davis Medical Center, Sacramento

2:00 PM Video-Assisted Thoracoscopic Surgery vs Thoracotomy—Differences in Outcomes Are Not Just Technique-Dependent: A Study of 9,787 Patients

A. S. Wolf

Mount Sinai Medical Center, New York, NY

2:15 PM Bacterial Colonization of Non-Operated Lung Increases Mortality in Patients Undergoing Lung Cancer Surgery

J. Iquille

University Hospital of Amiens Picardy, France

2:30 PM Geographic Variations Observed in Lung Cancer Lobectomy Procedural Outcomes: The Society of Thoracic Surgeons General Thoracic Surgery Database

T. V. Bilfinger

Stony Brook University Medical Center, NY

2:45 PM Pulmonary Resection for Second Lung Cancer After Pneumonectomy: Is It Worth the Risk?

A. Ayub

Icahn School of Medicine at Mount Sinai, New York, NY

1:00 PM – 5:30 PM

Room 350DEF

Advanced Therapies for End-Stage Heart Disease

Moderators: Pavan Atluri, Philadelphia, PA, Robert L. Kormos, Pittsburgh, PA, Francis D. Pagani, Ann Arbor, MI, and Jay D. Pal, Seattle, WA

- 1:00 PM Hemodynamic Support for Shock: Are All Devices Created Equal?**
Nir Uriel, Chicago, IL
- 1:15 PM Extracorporeal Cardiopulmonary Resuscitation: Is Broader Dissemination of Its Use Appropriate and Who Should Provide It?**
Ashish Shab, Nashville, TN
- 1:30 PM Extracorporeal Membrane Oxygenation (ECMO) Complications: Prevention and New Approaches for Management**
Jonathan W. Haft, Ann Arbor, MI
- 1:45 PM Short-Term Circulatory Support as a Bridge to Transplant or Recovery: Changing Techniques and Approaches**
Pavan Atluri, Philadelphia, PA
- 2:00 PM Increasing the Donor Pool in Thoracic Transplantation: Experience With Ex Vivo Perfusion**
Jason W. Smith, Seattle, WA
- 2:15 PM Case Presentation on ECMO and Panel Discussion**
Michael S. Firstenberg, Akron, OH
- 2:30 PM Does Duration of Continuous-Flow Left Ventricular Assist Devices Have an Impact on Postoperative Outcomes After Cardiac Transplantation? An Analysis of UNOS/OPTN Data**
*D. Chauhan
Rutgers New Jersey Medical School, Newark, NJ*
- 2:45 PM Clinical and In Vitro Evidence That Left Ventricular Assist Device (LVAD)-Associated Hemolysis Contributes to LVAD Thrombosis**
*C. Bartoli
Hospital of the University of Pennsylvania, Philadelphia*
- 3:00 PM Break**
- 3:30 PM What Defines a Bad Right Ventricle? Perioperative Imaging and Hemodynamic Assessment of the Right Ventricle**
J. Eduardo Rame, Philadelphia, PA
- 3:45 PM The Right Ventricle Is Not Working and I'm in Trouble: What's Next?**
Robert L. Kormos, Pittsburgh, PA
- 4:00 PM Durable BiVAD Support and Total Artificial Heart Options: Perspectives From INTERMACS**
Francisco A. Arabia, Los Angeles, CA
- 4:15 PM Challenges in Durable VAD Therapy**
Mark S. Slaughter, Louisville, KY
- 4:30 PM Advanced Structural Heart Disease: Ischemic Cardiomyopathy—When to Bypass, Stent, Transplant, or VAD**
Carmelo A. Milano, Durham, NC
- 4:45 PM Case Presentation on Right Heart Failure and Panel Discussion**
Bryan A. Whitson, Columbus, OH

5:00 PM **Do Left Ventricular Assist Device-Related Complications Impact Graft Survival After Cardiac Transplantation? Insight from UNOS/OPTN Data**

D. Chauhan

Rutgers New Jersey Medical School, Newark, NJ

5:15 PM **Predicting Right Ventricular Failure in the Current Continuous-Flow Left Ventricular Assist Device Era**

A. Loforte

S. Orsola-Malpighi Hospital, Bologna, Italy

1:00 PM – 5:30 PM

Room 360A

✔ Patient Safety Symposium: Resilience or Burnout—Do We Have a Choice?

Moderator: Susan D. Moffatt-Bruce, Columbus, OH

1:00 PM **Introduction**

Susan D. Moffatt-Bruce, Columbus, OH

1:15 PM **Work-Related Stress and Burnout in Surgery**

Charles Balch, Houston, TX

2:00 PM **Developing Physician Resilience**

Wayne Sotile, Winston-Salem, NC

2:45 PM **Q&A**

3:00 PM **Break**

3:30 PM **How Can the Institution Address Physician Burnout?**

Steven Gabbe, Rochester, MN

4:15 PM **Mindfulness to Combat Work-Related Stress**

Maryanna Klatt, Columbus, OH

5:00 PM **Panel Discussion**

J. Michael DiMaio, Dallas, TX, and Theolyn Price, Colorado Springs, CO

3:00 PM – 3:30 PM

BREAK—Visit Exhibits and Scientific Posters

Complimentary coffee available in the Exhibit Hall

3:30 PM – 4:30 PM

Room 362A

Cardiothoracic Surgical Education

Moderator: Ara A. Vaporciyan, Houston, TX

3:30 PM **Current Status of Endovascular Training for Cardiothoracic Surgery Residents in the United States**

P. N. Vardas

Indiana University School of Medicine, Indianapolis

3:45 PM **Implementation of a Novel Debate-Style Cardiothoracic Surgery Journal Club for Trainee Acquisition and Application of Seminal Literature: Results of a Pilot Curriculum**

M. B. Antonoff

The University of Texas MD Anderson Cancer Center, Houston

4:00 PM **Resident Autonomy in the Operating Room: Expectations vs Reality**

J. M. Sternbach

Northwestern University, Chicago, IL

4:15 PM Integration of Simulation Components Enhances Team Training in Cardiac Surgery

*D. Joyce
Mayo Clinic, Rochester, MN*

3:30 PM – 4:30 PM

Room 320ABC

Late-Breaking Abstracts II

3:30 PM – 5:30 PM

Room 310ABC

Adult Cardiac: Aorta II

Moderators: Jebangir J. Appoo, Calgary, Canada, and T. Brett Reece, Aurora, CO

3:30 PM Open Distal Anastomosis in Acute Type A Aortic Dissection Is Associated With Equivalent Short-Term Mortality But Improved Long-Term Survival Compared to Clamp-On Anastomosis: A Multicenter Study With Propensity Score Matching Analysis

*A. Geirsson
Landspítali University Hospital, Reykjavik, Iceland*

3:45 PM Risk Modeling to Optimize Patient Selection for Management of Descending Thoracic Aortic Aneurysm

*A. Tanaka
McGovern Medical School, Houston, TX*

4:00 PM Operative Outcomes for Valve-Sparing Aortic Root Repair and Bentall Procedure in Marfan Patients: An International Collaboration From Johns Hopkins and UK Data (NICOR)

*M. Bashir
Barts Heart Centre, London, United Kingdom*

4:15 PM Analysis of More Than 700 Type A Dissections Using the Penn Classification

*N. Desai
University of Pennsylvania, Philadelphia*

4:30 PM A Challenging Treatment for Aortic Arch Aneurysm With Fenestrated Stent Graft

*K. Yuri
Saitama Medical Center of Jichi Medical University, Japan*

4:45 PM Characteristics and Predictors of Unplanned Readmissions After Open Thoracoabdominal Aortic Aneurysm Repair

*S. A. LeMaire
Baylor College of Medicine, Houston, TX*

5:00 PM Debate: Management of the Aortic Arch in DeBakey Type I Dissection

*Hemiarch Only: Marc R. Moon, St Louis, MO
Extended Arch Reconstruction: Jebangir J. Appoo, Calgary, Canada*

3:30 PM – 5:30 PM

Room 330AB

Adult Cardiac: Aortic Valve

Moderators: Joseph F. Sabik, Cleveland, OH, and Wilson Y. Szeto, Philadelphia, PA

3:30 PM The Impact of Tricuspid Valve Regurgitation on Transcatheter Aortic Valve Replacement Outcomes: A Report From the STS/ACC TVT Registry™

*F. H. McCarthy
Hospital of the University of Pennsylvania, Philadelphia*

- 3:45 PM** **Cost and Outcomes of Surgical vs Transcatheter Aortic Valve Replacement: Analysis of the Post-Approval TAVR Experience in the United States**
J. M. Burg
Oregon Health & Science University, Portland
- 4:00 PM** **The Ross Procedure: 21-Year Follow-Up**
R. R. Favoloro
Favaloro Foundation University Hospital, Buenos Aires, Argentina
- 4:15 PM** **Aortic Valve Replacement With Sutureless Perceval Bioprosthesis: Single-Center Experience With 617 Implants**
G. Concistrè
G. Pasquinucci Heart Hospital, G. Monasterio Tuscany Foundation, Massa, Italy
- 4:30 PM** **Two-Year Echocardiographic and Clinical Outcomes in 937 Intermediate Patients Undergoing Surgical Aortic Valve Replacement From the PARTNER 2A Study**
V. H. Thourani
Emory University, Atlanta, GA
- 4:45 PM** **Annular Stabilization During Bicuspid Aortic Valve Repair: A Prospective Study**
M. Jasinski
Medical University Wroclaw, Poland
- 5:00 PM** **Debate: TAVR for Aortic Stenosis in Low-Risk Patients: Is It Natural Evolution or Madness?**
Natural Evolution: Michael J. Mack, Plano, TX
Madness: Thomas E. MacGillivray, Houston, TX

3:30 PM – 5:30 PM

Room 360BC

Congenital: Pediatric Congenital III*Moderators: Joseph W. Turek, Iowa City, IA, and James S. Tweddell, Cincinnati, OH*

- 3:30 PM** **Postoperative and Long-Term Outcomes in Children With Trisomy 21 Following Surgery for Congenital Heart Disease: A Study From the Pediatric Cardiac Care Consortium**
S. P. Setty
Long Beach Memorial/Miller Children's & Women's Hospital, CA
- 3:45 PM** **Surgical Outcomes of Heterotaxy Syndrome With Functional Single Ventricle**
T. Nakano
Fukuoka Children's Hospital, Japan
- 4:00 PM** **Effect of Congenital Gastrointestinal Malformations on the Outcomes of Patients With Congenital Heart Disease**
C. M. Mery
Texas Children's Hospital/Baylor College of Medicine, Houston
- 4:15 PM** **Impact of Chromosomal Abnormalities on Outcomes After Congenital Heart Surgery**
Speaker TBD
- 4:30 PM** **Current Surgical Outcomes of Congenital Heart Surgery for Patients With Down Syndrome: An Analysis of the Japan Congenital Cardiovascular Surgery Database**
T. Hoashi
National Cerebral and Cardiovascular Center, Suita, Japan

- 4:45 PM **Can Pulsatility Be Eliminated Without a Careful Consideration During Bidirectional Glenn?**
C. Park
Cincinnati Children's Hospital Medical Center, OH
- 5:00 PM **Hypoplastic Left Heart Syndrome Is Not a Predictor of Outcomes Following the Fontan Operation: A Cohort Study**
B. Martin
University of Alberta, Edmonton, Canada
- 5:15 PM **Improving Clinical Outcomes of Right Atrial Isomerism Associated With Extracardiac Total Anomalous Pulmonary Venous Connection**
T. Kakuta
National Cerebral and Cardiovascular Center, Suita, Japan

3:30 PM – 5:30 PM

Room 351DEF

ESTS @ STS: Controversial Issues in General Thoracic Surgery— Perspectives From Europe and North America

Moderators: Janet P. Edwards, Calgary, Canada, and Jaroslaw Kuzdzal, Krakow, Poland

- 3:30 PM **Introduction**
- 3:35 PM **Adjuvant Treatment After Completely Resected Thymic Malignancies: European Perspective**
Enrico Ruffini, Turin, Italy
- 3:45 PM **Adjuvant Treatment After Completely Resected Thymic Malignancies: North American Perspective**
Frank C. Detterbeck, New Haven, CT
- 3:55 PM **Panel Discussion**
- 4:05 PM **Donors After Circulatory Death for Lung Transplantation: European Perspective**
Dirk E. Van Raemdonck, Leuven, Belgium
- 4:15 PM **Donors After Circulatory Death for Lung Transplantation: North American Perspective**
Frank D'Ovidio, New York, NY
- 4:25 PM **Panel Discussion**
- 4:35 PM **Lung Volume Reduction for Emphysema in 2017: European Perspective**
David Waller, Leicester, United Kingdom
- 4:45 PM **Lung Volume Reduction for Emphysema in 2017: North American Perspective**
Malcolm M. DeCamp, Chicago, IL
- 4:55 PM **Panel Discussion**
- 5:05 PM **Surgical Management of Spontaneous Esophageal Perforations: European Perspective**
Hasan F. Batirel, Istanbul, Turkey
- 5:15 PM **Surgical Management of Spontaneous Esophageal Perforations: North American Perspective**
M. Blair Marshall, Washington, DC
- 5:25 PM **Panel Discussion**

3:30 PM – 5:30 PM

Room 361A

General Thoracic: Mediastinal/Pulmonary*Moderators: Elizabeth A. David, Sacramento, CA, and Joseph B. Shrager, Stanford, CA*

- 3:30 PM Predictive Factors of Postoperative Disease Control in Thymomatous Myasthenia Gravis**
K. Hyun
Seoul National University Hospital, South Korea
- 3:45 PM Utility of Soluble Mesothelin-Related Peptides for Prediction of Recurrence Following Resection of Malignant Pleural Mesothelioma**
B. Burt
Baylor College of Medicine, Houston, TX
- 4:00 PM Robotic Thymectomy Is Feasible for Large Thymomas: A Propensity-Matched Comparison**
P. Kneuertz
New York-Presbyterian Hospital, Weill Cornell Medical College, New York, NY
- 4:15 PM Multidisciplinary Approach to Catamenial and Endometriosis-Related Pneumothorax**
P. Ciriaco
San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, Italy
- 4:30 PM Accuracy of Intraoperative Lymph Node Sampling for Predicting Final N Stage in Patients Undergoing Cytoreduction for Malignant Pleural Mesothelioma**
S. Atay
The University of Texas MD Anderson Cancer Center, Houston
- 4:45 PM Radical Thymectomy vs Conservative Thymomectomy in the Surgical Treatment of Thymic Malignancies**
E. Voulaz
Humanitas Research Hospital, Milan, Italy
- 5:00 PM Revision of Failed Prior Nuss in Adult Pectus Excavatum Patients**
A. Ashfaq
Mayo Clinic, Phoenix, AZ
- 5:15 PM The Influence of External Suction on Fluid Output in Chest Drains After Lobectomy – A Randomized Controlled Trial**
M. Lijkendijk
Odense University Hospital, Denmark

6:30 AM – 9:30 AM

Room 360 Lobby and Hall B3

Registration

7:00 AM – 9:00 AM and repeated 9:30 AM – 11:30 AM

Hall B3

 **STC University****Course 1: Essentials of TAVR***Course Directors: Basel Ramlawi, Winchester, VA, and Eric L. Sarin, Atlanta, GA***Course 2: TEVAR and Aortic Arch Debranching Procedures***Course Directors: Ali Khojmezbah, Los Angeles, CA, and Ourania A. Preventza, Houston, TX***Course 3: Mitral Valve Repair***Course Directors: Evelio Rodriguez, Nashville, TN, and Robert L. Smith, Plano, TX***Course 4: Valve-Sparing Aortic Root Replacement***Course Directors: Duke E. Cameron, Baltimore, MD, Edward P. Chen, Atlanta, GA, and Bo Yang, Ann Arbor, MI***Course 5: Aortic Root Enlarging Procedures and Aortic Valve Leaflet Reconstruction***Course Directors: S. Adil Husain, San Antonio, TX, and Prashanth Vallabhajosyula, Philadelphia, PA***Course 6: VATS Lobectomy***Course Directors: Shari L. Meyerson, Chicago, IL, and Betty C. Tong, Durham, NC***Course 7: Advanced Open Esophageal and Tracheal Procedures***Course Directors: David T. Cooke, Sacramento, CA, and Sidbarta P. Gangadharan, Boston, MA***Course 8: Chest Wall Resection and Pectus Surgery***Course Directors: Dawn E. Jaroszewski, Phoenix, AZ, Daniel L. Miller, Marietta, GA, and Mathew Thomas, Jacksonville, FL***Course 9: Atrial Fibrillation (Maze Procedure)***Course Directors: Matthew A. Romano, Ann Arbor, MI, and Edward G. Soltesz, Cleveland, OH***Course 10: Mechanical Circulatory Support***Course Directors: Aaron M. Cheng, Seattle, WA, Mani A. Daneshmand, Durham, NC, and Nabush A. Mokadam, Seattle, WA*

The information listed here is accurate as of December 6, 2016. The information for these products and services was provided by the manufacturers, and inclusion in this publication should not be construed as a product endorsement by STS.

A&E Medical Corporation
Durham, NC

Booth: 331

A&E Medical's products include MYO/Wire® temporary pacing wires, MYO/Wire II sternum wires, MYO/Punch rotating surgical punch, MYO/Lead disposable patient cable, and DoubleWire high-strength sternal closure system.

Abbott
Santa Clara, CA

Booth: 733

Abbott (NYSE: ABT) is a global health care company devoted to improving life through the development of products and technologies that span the breadth of health care. With a portfolio of leading, science-based offerings in diagnostics, medical devices, nutritionals, and branded generic pharmaceuticals, Abbott serves people in more than 150 countries and employs approximately 70,000 people.

Abiomed Inc
Danvers, MA

Booth: 543

ACUTE Innovations
Hillsboro, OR

Booth: 739

Furthering its reputation as a leader in the thoracic industry, ACUTE Innovations® introduces a new addition to its portfolio, RibLoc® U Plus 90 Instrumentation. The U Plus 90 Instrumentation system works in conjunction with the RibLoc® U Plus Chest Wall Plating system, which features a unique U-shape design to aid in placement on the rib.

Adaptec Medical Devices
Raleigh, NC

Booth: 1210

Adaptec Medical introduces the Sensica UO System—the only way to obtain automated, ongoing, accurate urine output (UO) data using any standard Foley catheter and drainage system—for critical care and OR use. It's a simple, effective way to identify patients at risk for acute kidney injury and facilitate early intervention. Now, UO can be monitored as a true vital sign for managing patient care.

Admedus
Minneapolis, MN

Booth: 937

Admedus, a global health care group, is working with renowned medical leaders to bring new medical technologies to market. CardioCel®, a cardiovascular scaffold, is the first of its ADAPT® tissue-engineered bioimplants and is being used by surgeons to repair simple and complex cardiac defects.

Aesculap
Center Valley, PA

Booth: 129

Aesculap Inc, a member of the B. Braun family of health care companies, is the world's largest manufacturer of surgical instrumentation. For more than 138 years, Aesculap has provided customers with surgical instrumentation for ENT, plastic and reconstructive, thoracic, microvascular, cardiovascular, and laparoscopic surgery.

**American Association for Thoracic Surgery Booth: AF01 (Hall B3)
Beverly, MA**

Founded in 1917, the American Association for Thoracic Surgery aims to promote scholarship, innovation, and leadership in thoracic and cardiovascular surgery. It has become an international professional organization of more than 1,350 of the world's foremost cardiothoracic surgeons. www.aats.org

**American College of Chest Physicians Booth: AF06 (Hall B3)
Glenview, IL**

The American College of Chest Physicians is the global leader in advancing best patient outcomes through innovative chest medicine education, clinical research, and team-based care. CHEST is the essential connection for its 19,000 members from around the world who provide patient care in pulmonary, critical care, and sleep medicine.

**AngioDynamics Booth: 840
Latham, NY**

A leading provider of innovative, minimally invasive medical devices used by professional health care providers for vascular access, surgery, peripheral vascular disease, and oncology. AngioDynamics' diverse product lines include market-leading fluid management systems, angiographic products, thrombolytic products, and venous products. More information is available at www.AngioDynamics.com.

**Animal Technologies Booth: 1124
Tyler, TX**

Animal Technologies is a broad-based, major supplier of tissues, glands, sera, and plasma. The company offers one of the largest selections of tissues, glands, and raw sera in the industry and is a leading supplier of customized medical tissue blocks, especially pediatric-sized tissue blocks.

**AtriCure Inc Booth: 417
Mason, OH**

AtriCure Inc is a medical device company that provides innovative solutions designed to decrease the global atrial fibrillation (Afib) epidemic. AtriCure's Synergy™ Ablation System is the first and only surgical device approved for the treatment of persistent and longstanding persistent forms of Afib in patients undergoing certain open concomitant procedures.

**Bard Davol Booth: 235
Warwick, RI**

Bard is the market leader in comprehensive soft tissue reconstruction. In addition to this extensive suite of products, the company's BioSurgery franchise is delivering a growing line of enhanced sealants and hemostatic products to complement surgical techniques across thoracic, cardiovascular, and other surgical specialties.

**Baxter Booth: 1205
Deerfield, IL**

Baxter's BioSurgery business unit offers a comprehensive line of biologic and synthetic products that advance surgical care. BioSurgery specializes in intraoperative wound and tissue management and aims to improve surgical practice. The portfolio comprises products for hemostasis, sealing, staple line reinforcement, soft tissue repair, and bone graft substitution.

Baylis Medical
Mississauga, Canada

Booth: 344

Baylis Medical develops and markets high-technology medical devices used in the fields of interventional cardiology and interventional radiology. The company's vision is to develop and market innovative medical therapies while improving the lives of people around the world. Baylis has offices in Montreal, Toronto, Boston, and London.

BD
San Diego, CA

Booth: 147

BD is a global corporation helping clinicians and hospitals measurably improve patient care. The PleurX® Catheter System allows patients to manage symptoms associated with recurrent pleural effusions and malignant ascites at home, reducing length of stay and cost of care while improving quality of life. Visit BD at Booth 147 to learn more.

Berlin Heart Inc
The Woodlands, TX

Booth: 243

Berlin Heart is the only company worldwide that develops, manufactures, and distributes ventricular assist devices for patients of every age and body size. EXCOR® Pediatric provides medium- to long-term circulatory support specifically for infants and children awaiting heart transplants. EXCOR Pediatric is approved for use in the United States under Humanitarian Device Exemption regulations by the Food and Drug Administration.

BFW Inc
Louisville, KY

Booth: 240

BFW is known as a worldwide technological leader in surgical illumination and headlight video imaging. Visit Booth 240 to experience the foremost innovations in portable LED headlights offering intense, clean, bright white light and the new Hatteras™ LED light source—unmatched intense fiber optic illumination for headlights and instrumentation.

BioStable Science & Engineering
Austin, TX

Booth: 819

BioStable Science & Engineering is developing and commercializing proprietary valve repair technologies that provide an alternative to valve replacement for aortic valve disease. The company's HAART Aortic Annuloplasty Devices are designed to simplify and standardize aortic valve repair for patients undergoing surgery for aortic insufficiency or root aneurysm.

Biostage
Hingham, MA

Booth: 1040

Biostage is developing bioengineered implants based on the company's Cellframe™ technology, which combines a proprietary biocompatible scaffold with a patient's own stem cells to create Cellspan™ implants. These first-of-their-kind implants are being developed to treat life-threatening conditions of the esophagus, bronchus, or trachea. For more information, visit www.biostage.com.

**BLOXR Solutions
North Branch, NJ****Booth: 829**

Manufacturer of radiation protection cream and apparel. ULTRABLOX® X-Ray Attenuating Cream helps protect a clinician's hands during radiological procedures without affecting dexterity and tactile feel. XPF® radiation shields provide a lightweight, effective, machine-washable alternative to lead and like-lead aprons and apparel.

**Bolton Medical
Sunrise, FL****Booth: 1211**

Bolton Medical is a subsidiary of the WerfenLife Company, a global company that manufactures and distributes medical diagnostic solutions and medical devices worldwide. Bolton's vision is to become the leading provider of endovascular solutions for aortic disease. Bolton develops, manufactures, and distributes innovative, high-quality products solely focused on the aorta.

**Bovie Medical Corporation
Clearwater, FL****Booth: 838**

Bovie® Medical will be featuring J-Plasma®—the helium-based gas plasma technology that is transforming the way surgeries are performed. J-Plasma® works with precision and versatility across open and laparoscopic procedures. Bovie also will exhibit its complete line of electro-surgical products.

**Cardiac Surgical Unit Advanced Life Support
Simpsonville, KY****Booth: 726**

Cardiac Surgical Unit Advanced Life Support (CSU-ALS) is the leading provider of CSU-ALS training in the US, Canada, and Mexico. It is the sole distributor of the CSU-ALS manikin. CSU-ALS can bring training to your hospital and team or your team members can attend national provider and trainer courses. Course completion results in CSU-ALS Certification are based on a 2-year renewal cycle.

**CG Health Partners, LLC
Syracuse, NY****Booth: 741**

CG Health Partners provides strategy consulting and execution support exclusively to cardiothoracic and vascular surgery practices for successful hospital alignment. From academic employment to professional services agreements, its partners have the breadth and depth of experience to craft and negotiate the most favorable economic model for the surgeon.

**Cook Medical
Bloomington, IN****Booth: 1026**

Founded in 1963, Cook Medical pioneered many of the medical devices now commonly used to perform minimally invasive medical procedures throughout the body. Today, the company integrates medical devices, drugs, and biologic grafts to enhance patient safety and improve clinical outcomes. Since its inception, Cook has operated as a family-held private corporation.

**CorMatrix
Roswell, GA****Booth: 335**

CorMatrix® Cardiovascular markets its ECM® Bioscaffold devices for vascular repair, pericardial repair and reconstruction, cardiac tissue repair, and CanGaroo ECM Envelope for CIEDs. CorMatrix ECM Technology allows surgeons to restore the native anatomy of cardiac and vascular tissue in need of repair, serving as a superior alternative to synthetic or cross-linked materials.

CryoLife **Booth: 705**
Kennesaw, GA

CryoLife, Inc® is one of the world's leading contemporary medical device companies, providing preserved human cardiac and vascular tissues, surgical adhesives and sealants, prosthetic heart valves, cardiac lasers, and other medical devices. Since the company's inception in 1984, it is estimated that its products and tissues have helped more than 1 million patients worldwide.

CT Assist **Booth: 935**
Philippi, WV

CT Assist is a managed service provider of cost-effective cardiothoracic surgery advanced practitioners who deliver quality care. CT Assist provides workforce management solutions from long-term to locum tenens and vacation coverage. It is a physician assistant-owned nationwide employer of talented and experienced cardiothoracic PAs and nurse practitioners.

CTSNet **Booth: 639**
Chicago, IL

CTSNet (www.ctsnet.org) is the leading international source of online resources related to cardiothoracic surgery, as well as the major hub of the international online community of cardiothoracic surgeons and allied health care professionals.

Delta Companies, The **Booth: 1042**
Dallas, TX

The Delta Companies offer permanent and temporary staffing solutions nationwide for physicians, physician extenders, therapy, and other allied health care professionals. Physician staffing services are represented by Delta Physician Placement and Delta Locum Tenens. All other allied health care staffing services are represented by Delta Healthcare Providers.

Designs for Vision **Booth: 141**
Ronkonkoma, NY

Just See It™ with Designs for Vision's lightweight custom-made surgical telescopes, available with Nike® frames. See It Even Better™ with the L.E.D. Daylite® or Twin Beam®, providing the brightest and safest untethered illumination. Introducing the L.E.D. Daylite® Nano Cam HD—document the procedure with HD video from your prospective.

Dextera Surgical **Booth: 132**
Redwood City, CA

EBM **Booth: 506**
Tokyo, Japan

EBM, a biomedical spin-out venture company from Japan, provides the original beating heart simulator and quantitative assessment system for off-pump coronary artery bypass grafting and vascular anastomosis worldwide. Skill assessment is based on rapid CFD technology and validated silicone vascular model.

Edwards Lifesciences **Booth: 503**
Irvine, CA

Edwards Lifesciences is the global leader in the science of heart valves and hemodynamic monitoring. Driven by a passion to help patients, the company partners with clinicians to develop innovative technologies in the areas of structural heart disease and critical care monitoring, enabling them to save and enhance lives. Additional company information can be found at www.edwards.com.

Elsevier **Booth: 920**
Philadelphia, PA

Elsevier is the proud publisher of *The Annals of Thoracic Surgery* and a world-leading provider of information solutions that enhance the performance of science, health, and technology professionals. Elsevier empowers better decision making and the delivery of better care. www.elsevier.com

Essential Pharmaceuticals **Booth: 928**
Ewing, NJ

Supporting the preservation and growth of human systems. From the cell to the entire organ, the company looks to advance medical treatments and the research that creates new medical treatments. Originally developed for cardiac surgery, Custodiol®HTK offers superior convenience, water-like viscosity, and no need for additives or filters, which makes it a preferred solution for many transplant centers.

Ethicon US, LLC/DePuy Synthes **Booth: 527**
Cincinnati, OH

Ethicon US, LLC and DePuy Synthes bring to market a broad range of innovative surgical products, solutions, and technologies used to treat some of today's most prevalent medical issues, such as colorectal and thoracic conditions, spine and cardiovascular conditions, cancer, obesity, and other conditions requiring general surgery.

European Association for Cardio-Thoracic Surgery **Booth: AF08 (Hall B3)**
Windsor, United Kingdom

EACTS is the largest European association devoted to the practice of cardiothoracic surgery. The main objective of the association is to advance education in the field of cardiothoracic surgery and to promote, for the public benefit, research into cardiovascular and thoracic physiology and therapy and to correlate and disseminate the useful results thereof. Visit Booth 742 for more information.

European Society of Thoracic Surgeons **Booth: AF07 (Hall B3)**
Exeter, United Kingdom

ESTS is the largest international general thoracic surgery organization with more than 1,550 members from all continents. The society's mission is to improve quality in the specialty—from clinical and surgical management of patients to education, training, and credentialing of thoracic surgeons worldwide. The 25th European Conference on General Thoracic Surgery will be held on 28-31 May 2017, in Innsbruck, Austria. www.ests.org

Fehling Surgical **Booth: 340**
Acworth, GA

Fehling Surgical Instruments, Inc is the leader in fine crafted surgical instrumentation that has focused on cardiovascular surgery for more than 30 years. The company features minimally invasive valve sets, including NEW retractor designs for unmatched atrial exposure of the left atrium. The CERAMO and Superplast instruments are designed specifically for cardiovascular procedures (needle holders, forceps, clamps, and MICS).

**FUJIFILM Medical Systems USA, Inc
Wayne, NJ****Booth: 953**

Fujifilm Endoscopy is a market leader and progressive physician partner in improving patient outcomes through innovative endoscopic imaging technologies. The advanced endoscopic tools for pulmonary and gastrointestinal physicians, such as the new SU-1 Ultrasonic Processor, touch millions of lives – a goal at the forefront of the company's mission.

**General Cardiac Tech
San Jose, CA****Booth: 112**

The Heart Hugger Sternum Support Harness is a patient-operated support harness applied postoperatively to splint surgical wounds. Benefits include improved patient compliance, faster return to pre-morbid respiratory levels, fewer wound complications and better postoperative mobility. It is useful for open heart surgery, thoracotomy, fractured rib, and other chest trauma patients.

**General Thoracic Surgical Club
Zumbrota, MN****Booth: 918**

Founded in 1988, the General Thoracic Surgical Club is a not-for-profit organization representing more than 325 general thoracic surgeons worldwide who are dedicated to ensuring the best possible outcomes for surgical procedures of the lung, mediastinum, esophagus, and chest wall by providing the highest quality patient care through education, research, and clinical experience.

**Genesee BioMedical
Denver, CO****Booth: 847**

Design Beyond Standard. Genesee BioMedical, Inc provides unique devices for cardiac surgery, including annuloplasty for mitral and tricuspid repair, sternal/thoracic valve retractors, instruments for minimally invasive aortic, transcatheter aortic valve implantation, and robotic surgeries, coronary graft markers, suture guards, retraction clips, and myocardial needles.
www.geneseebiomedical.com

**Getinge Group
Wayne, NJ****Booth: 515**

Getinge Group is a leading global provider of products and systems that contribute to quality enhancement and cost efficiency within health care and life sciences. The company operates under the three brands of ArjoHuntleigh, Getinge, and Maquet. It builds quality and safety into every system and enhances efficiency throughout the clinical pathway.

**Gore & Associates
Flagstaff, AZ****Booth: 1201**

The Gore Medical Products Division has provided creative solutions to medical problems for three decades. More than 35 million Gore medical devices have been implanted worldwide. Products include vascular grafts, endovascular and interventional devices, surgical materials, and sutures for use in vascular, cardiac, and general surgery. For more information, visit www.goremedical.com.

**Hackensack Meridian Health
Wall, NJ****Booth: 143**

Hackensack Meridian Health is a leading, not-for-profit health care network in New Jersey offering a complete range of medical services, innovative research, and life-enhancing care, aiming to serve as a national model for changing and simplifying health care delivery through partnerships with innovative companies and focusing on quality and safety.

**HCA
Brentwood, TN****Booth: 827**

HCA owns and operates more than 160 health care facilities in 20 states with opportunities coast to coast. HCA was one of the nation's first hospital companies. It is committed to the care and improvement of human life. The company strives to deliver quality health care that meets the needs of the communities it serves.

**Heart Hospital Baylor Plano, The
Plano, TX****Booth: 725**

The Heart Hospital Baylor Plano is a cardiovascular specialty hospital in North Texas that opened in 2007. In less than a decade, the hospital's quality outcomes and guest satisfaction scores have garnered recognition, praise, and accolades from international giants in the health care field. Visit TheHeartHospitalBaylor.com to learn more.

**Heart Valve Society
Beverly, MA****Booth: AF05 (Hall B3)**

The Heart Valve Society (HVS) – “The Heart Team in Action.” HVS welcomes you to become a part of something unique. HVS offers all members of the heart valve community the opportunity to participate in its annual meetings, as well as volunteer, participate, and become active in its committees and working groups. Join the HVS! Learn more at www.heartvalvesociety.org.

**HeartWare
Framingham, MA****Booth: 941**

HeartWare is dedicated to delivering safe, high-performing, and transformative therapies that enable patients with heart failure to get back to life. The HVAD® Pump is designed to be implanted in the pericardial space, avoiding the more invasive surgical procedures required with older LVAD technologies. The HVAD Pump is available commercially around the world.

**Houston Methodist Hospital
Houston, TX****Booth: 923**

Houston Methodist Hospital is one of the nation's largest hospitals, an academic medical center, and a center for visionary research. *U.S. News & World Report* recently named it one of only 20 hospitals on its prestigious Honor Roll. Building on a history of innovation, Houston Methodist continues to pioneer a better tomorrow through research, innovation, and breakthroughs today.

**International Society for Minimally Invasive
Cardiothoracic Surgery
Beverly, MA****Booth: AF04 (Hall B3)**

ISMICS: Innovation, Technologies, and Techniques in Cardiothoracic and Cardiovascular/Vascular Surgery. 2017 ISMICS Annual Scientific Meeting, 7-10 June 2017, Cavalieri Waldorf, Rome, Italy. www.ismics.org.

**Intuitive Surgical
Sunnyvale, CA****Booth: 117**

Intuitive Surgical, Inc designs, manufactures, and distributes the da Vinci® Surgical System, technology designed to allow surgeons to perform many complex procedures minimally invasively.

**IsoRay Medical
Richland, WA****Booth: 145**

IsoRay Medical manufactures and distributes radiation therapy sources for direct implantation into cancer or surgical margins following resection of cancer. IsoRay markets cesium-131 based brachytherapy meshes and strands for resection line treatment following surgery for high-risk lung cancers, resulting in highly conformal adjuvant radiation therapy that spares critical thoracic structures.

**JACE Medical
Winona Lake, IN****Booth: 926**

JACE Medical pioneered the world's first rigid sternal closure system applied pre-sternotomy: the Grand Pre®. JACE Medical is a company and culture committed to creating innovative, transformational technologies that facilitate optimal patient treatment, recovery, and future wellness. Visit Booth 926 and see how the company "thinks outside the paradox." Get more information at JACEMED.com.

**Japanese Organization for Medical Device
Development, Inc
Tokyo, Japan****Booth: 1023**

JOMDD, Inc is engaged in the medical device incubation business, leveraging untapped Japan-origin technologies. The company is currently developing multiple medical device seeds with high potential and uniqueness. Its main product is the kit for the Ozaki AVNeo procedure that may shift the paradigm of treatment for aortic valve diseases. The single-use kit is now available in the US market.

**Just Co, Ltd
Torrance, CA****Booth: 346**

Only a dedicated plating company can provide "the strongest diamond plating" technology. The company can designate the plated layer, which anchors the diamond base on purpose. Its technology is unique and popular to those in the medical field in need of microsurgery instruments and endoscope tips.

**Kapp Surgical
Cleveland, OH****Booth: 645**

Kapp Surgical is a custom design shop that designs surgical instruments and implants, manufactures them, and sells them, as well as distributes domestically and internationally. Kapp's exclusive products include the Cosgrove Heart Retractor, Strip T's surgical organizer, and countless surgical devices, all FDA approved with several pending approval.

**Karl Storz Endoscopy
El Segundo, CA****Booth: 747**

Karl Storz offers solutions for thoracic surgery, including slender, easily dismantled MediaFIT instruments that offer economic solutions for mediastinoscopy. The ENDOCAMELEON® Telescope allows surgeons to adjust viewing directions from 0° to 120° without changing telescopes. The IMAGE1 S™ Camera Architecture System provides brilliant, natural color rendition and innovative visualization capabilities.

**Kinamed Inc
Camarillo, CA****Booth: 825**

Visit Kinamed's booth to view a demonstration of the SuperCable[®], Polymer Iso-Elastic[™] Sternal Closure system, which solves limitations of metal cable, wire, and plating systems. SuperCable provides a dual strand footprint, which reduces cut-through. It elastically absorbs load and maintains compression. The low-profile clasp minimizes palpability, and the polymer cable allows for quick re-entry.

**KLS Martin
Jacksonville, FL****Booth: 833**

KLS Martin, a responsive company, is focused on the development of innovative products for oral, plastic, and craniomaxillofacial surgery. New product developments in its titanium osteosynthesis plating systems allow these products to be used for rapid sternal fixation and reconstruction.

**Koros USA, Inc
Moorpark, CA****Booth: 944**

Koros USA manufactures and distributes coronary artery bypass, aortic valve replacement, internal mammary artery, and mitral valve retractors, pediatric and adult sternum spreaders, rib spreaders, and titanium/stainless steel needle holders and forceps. High-demand state-of-the-art instruments include the Internal Mammary Artery Tower, SWIFT, and Pro-Retractors.

**LifeNet Health
Virginia Beach, VA****Booth: 745**

LifeNet Health helps save lives, restore health, and give hope to thousands of patients each year. It is the world's most trusted provider of transplant solutions, from organ procurement to new innovations in bioimplant technologies and cellular therapies—a leader in the field of regenerative medicine, while always honoring the donors and health care professionals who allow the healing process.

**LivaNova
Arvada, CO****Booth: 317**

LivaNova is a world leader in the treatment of cardiovascular disease. Its innovative product portfolio includes aortic and mitral valve replacement and repair, perfusion equipment, cannula, and minimally invasive cardiac surgery instruments. For more information, visit www.livanova.com.

**LoupeCam
Scottsdale, AZ****Booth: 740**

LoupeCam[®] is the market leader in head-mounted HD surgical cameras and is the ONLY company offering cross platform (Mac, Windows, and soon Android) compatibility. The company offers five different magnification lenses to match all surgical points of view, along with a Bluetooth foot pedal, which allows for hands-free control of the camera.

**LSI Solutions
Victor, NY****Booths: 443, 649**

LSI Solutions[®] is celebrating its 10th year of clinical use and more than 3 million fasteners sold worldwide. COR-KNOT[®] is suture fastening technology you can trust. COR-KNOT[®] reduces cardiopulmonary bypass and cross clamp time, saving total operative time and improving patient outcomes. Visit www.lsisolutions.com.

**Mallinckrodt Pharmaceuticals
Hampton, NJ****Booth: 244**

Mallinckrodt is a global business that develops, manufactures, markets, and distributes specialty pharmaceutical and biopharmaceutical products and therapies, as well as nuclear imaging products. Mallinckrodt provides key products for hemostasis during surgery. Visit www.mallinckrodt.com.

**Med Alliance Solutions
Sycamore, IL****Booth: 537**

ISO 13485-certified medical device distributor committed to providing high-quality specialty devices for cardiothoracic surgery worldwide. Exclusive US distributor of French instruments manufacturer Delacroix-Chevalier and operational partner of Michigan-based Surge Cardiovascular for open heart surgical products.

**Medela
McHenry, IL****Booth: 625**

Medela provides medical vacuum technology solutions for advancement of patient care. Thopaz takes chest drainage therapy to a new level of care by regulating the applied pressure at the patient's chest while digitally monitoring critical therapy indicators. Thopaz Chest Drainage System is clinically proven to improve outcomes and streamline care.

**Medistim
Plymouth, MN****Booth: 709**

Medistim is the standard of care in the operating room. With the unique combination of transit time flow measurement and high-frequency ultrasound imaging guidance to help reduce and minimize the risk of negative postoperative outcomes, Medistim's quality assessment technology offers surgeons quantifiable validation and guidance during cardiovascular, vascular, transplantation, and neurosurgery.

**Medtronic
Minneapolis, MN****Booth: 101**

As a global leader in medical technology, services, and solutions, Medtronic improves the lives and health of millions of people each year. The company uses its deep clinical, therapeutic, and economic expertise to address the complex challenges faced by health care systems today. Let's take health care Further, Together. Learn more at Medtronic.com.

**Myriad Genetic Laboratories, Inc
Salt Lake City, UT****Booth: 343**

Myriad Genetics is a leading molecular diagnostic company dedicated to making a difference in patients' lives through the discovery and commercialization of transformative tests to assess a person's risk of developing disease, guide treatment decisions, and assess risk of disease progression and recurrence.

**Nadia International
Austin, TX****Booth: 724**

Educational/surgical bronze sculptures for the thoracic surgeon. These museum-quality limited editions are created by the world famous sculptor Ronadró. More than 7,500 surgeons in 77 countries collect his fine works of art. Introducing MIRACLE OF LIFE II and IN GOD'S Hand II at the 2017 meeting.

NeoChord, Inc
St Louis Park, MN**Booth: 839**

NeoChord is a medical technology company leading the advancement of minimally invasive, beating heart repair of degenerative mitral valve regurgitation. NeoChord received CE market clearance in December 2012 for the DS1000 system and has successfully treated more than 450 patients to date.

NeuWave Medical
Madison, WI**Booth: 1025**

NeuWave Medical® is changing the future of lung ablation. The NeuWave Medical Intelligent Microwave Ablation System offers a minimally invasive, non-surgical procedure for lung lesions. The versatile probe portfolio includes 17 gauge probes specifically designed for precise and controlled ablations. The new Ablation Confirmation™ software offers the only integrated in-procedure confirmation.

Olympus America Inc
Center Valley, PA**Booth: 930**

Olympus is a precision technology leader in designing and delivering imaging solutions in health care, life science, and photography. Through its health care solutions, Olympus aims to improve procedural techniques and outcomes and enhance the quality of life for patients.

Ornim, Inc
Foxboro, MA**Booth: 242**

Ornim specializes in research, development, and distribution of noninvasive patient monitors specializing in the field of tissue and cerebral blood flow. Its bedside product, c-FLOW™, is based on the patented UTLight™ technology designed to provide physicians with unique monitoring solutions that are imperative to individualized and personalized patient care.

Oscor Inc
Palm Harbor, FL**Booth: 1035**

Oscor is a leading provider of cardiac stimulation products and vascular access devices optimized for cardiothoracic surgery. Products include external pacemakers, temporary pacing leads, myocardial pacing wires, and a variety of pacing cables and accessories. Oscor is proud to present the newest in dual-chamber pacemaker and bipolar heartwire technology.

OSF HealthCare
Peoria, IL**Booth: 952**

OSF HealthCare, owned and operated by The Sisters of the Third Order of St Francis, includes the OSF Healthcare System, which consists of 11 hospitals and medical centers and two colleges of nursing. OSF HealthCare operates facilities in Illinois and Michigan.

Pinnacle Biologics
Chicago, IL**Booth: 852**

Pinnacle Biologics identifies critical cancer therapies to provide life-changing outcomes for patients worldwide. Their portfolio of products supports photodynamic therapy, which can be used for the treatment of endobronchial non-small-cell lung cancer, esophageal cancer, and high-grade dysplasia in Barrett's esophagus.

**Priority Heart
New York, NY****Booth: 850**

The SternaSafe sternal brace is the next-generation alternative for postoperative sternotomy patients. Are you still using a pillow? The SternaSafe provides necessary compression needed to heal the site and decrease pain for the patient. The SternaSafe has three separate features: non-patient activation, handgrip activation, and pulley activation. One size fits all.

**Providence Health & Services
Portland, OR****Booth: 1134**

Providence Health & Services is affiliated with Swedish Health Services, Pacific Medical Centers, and Kadlec. Together, these organizations include more than 5,000 employed providers, 35 medical centers, and more than 600 clinics in Alaska, California, Montana, Oregon, and Washington. The company is currently recruiting providers in nearly all medical specialties throughout the West. providence.org/providerjobs

**Quest Medical Inc
Allen, TX****Booth: 435**

Quest Medical Inc is a medical device manufacturer and worldwide distributor specializing in protecting the heart during cardiac surgery with the Quest MPS 2® and Microplegia. Quest also offers a unique variety of aortic punches, safety valves, vascular loops, and an anesthesia line designed for optimum cardiovascular surgery.

**Regional Data Managers: STS National Database
Ann Arbor, MI****Booth: 738**

The Regional Data Manager booth provides opportunities for surgeons to interact with data managers from around the country who are actively involved with STS Regional Database efforts and collaborative STS groups. Come learn about regional activities and initiatives!

**ReliantHeart, Inc
Houston, TX****Booth: 1037****rEVO Biologics
Framingham, MA****Booth: 950**

rEVO Biologics, Inc is a commercial-stage biopharmaceutical company focused on the development and commercialization of specialty therapeutics to address unmet medical needs in patients with rare, life-threatening conditions. The company's lead product, ATryn, is the first and only plasma-free antithrombin concentrate.

**RTI Surgical
Alachua, FL****Booth: 1017**

RTI Surgical® is a leading global surgical implant company providing surgeons with safe biologic, metal, and synthetic implants. RTI provides surgeons with metal, cable, and plating systems, as well as biologic options for cardiothoracic and trauma surgical procedures. Cardiothoracic implants offer increased stability and flexibility for anterior chest wall fixation for all types of closures.

**Rultract/Pemco Inc
Cleveland, OH****Booth: 328**

Rultract's surgical retractors provide gentle and uniform lift, allowing maximum exposure for IMA dissection, redo hearts, xiphoid entry, subxiphoid pericardial procedures, minimally invasive procedures (Thoratrak capable), parasternal procedures, pediatric/ASD, t-incisions, trans-abdominal GEA midcab, pectus, LVAD extraction, and TEMLA procedures.

**Scanlan International
St Paul, MN****Booth: 102**

Highest quality surgical products designed and manufactured by the Scanlan family since 1921. More than 3,000 titanium and stainless steel surgical instruments, including SCANLAN® Super Cut™ and Premier™ Scissors, SCANLAN® Legacy Needle Holders and Forceps, Memory Dilators/Probes, new VATS SCANLAN® Dennis Rib Cutter & Rocco Nodule Clamps, and SCANLAN® Single-Use Products.

**Siemens Medical Solutions USA Inc
Malvern, PA****Booth: 1052**

Siemens Healthineers is committed to becoming the trusted partner of health care providers worldwide, enabling them to improve patient outcomes while reducing costs. Driven by the company's long legacy of engineering excellence and its pioneering approach to developing the latest advancements, Siemens is a global leader in medical imaging, laboratory diagnostics, clinical IT, and services.

**Society of Thoracic Surgeons, The
Chicago, IL****Booth: 533**

The Society of Thoracic Surgeons represents more than 7,400 surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. At the booth, learn more about member benefits, advocacy efforts (including STS-PAC), opportunities to participate in the STS National Database and publicly report outcomes, and cutting-edge research being conducted via the STS Research Center. You also can donate to the Thoracic Surgery Foundation, the Society's charitable arm, and get advice from *The Annals of Thoracic Surgery* staff on submitting your manuscript. Stop by Booth 533 or visit www.sts.org to learn more.

**Sontec Instruments
Centennial, CO****Booth: 229**

Sontec offers headlights, loupes, and the most comprehensive selection of exceptional handheld surgical instruments available to the discriminating surgeon. There is no substitute for quality, expertise, and individualized service. Sontec's vast array awaits your consideration at its booth.

**St Jude Medical
Austin, TX****Booth: 305**

St Jude Medical is a leading global medical device manufacturer and is dedicated to transforming the treatment of some of the world's most expensive epidemic diseases. The company has five major areas of focus that include heart failure, atrial fibrillation, neuromodulation, traditional cardiac rhythm management, and cardiovascular diseases. Visit sjm.com.

STS/CTSNet Career Fair**Hall B3**

Make sure to stop by the STS/CTSNet Career Fair, which will give you the chance to meet face-to-face with top employers. Recruiters will be available to talk with you about career opportunities.

Surgical PA Consultants**Booth: 1034****Lynchburg, VA**

Since 1991, Surgical PA Consultants has provided professional recruiting and advertising services for cardiac surgical programs seeking physician assistants at a reasonable fee. The company has been clinically active in cardiac surgery and related PA professional societies for 40 years, developing the resources that result in successfully finding qualified PA candidates for cardiothoracic surgical practices.

SurgiTel/General Scientific Corp**Booth: 116****Ann Arbor, MI**

SurgiTel is the manufacturer of premium loupes and headlamps sold around the world. Holding a variety of patents, SurgiTel is always on the forefront of vision and ergonomics.

SynCardia Systems, Inc**Booth: 1208****Tucson, AZ**

The SynCardia temporary Total Artificial Heart (TAH-t) is the world's only FDA, Health Canada, and CE-approved Total Artificial Heart. It is approved as a bridge to transplant for patients dying from end-stage biventricular failure. Visit the SynCardia booth for updates on the Freedom® portable driver, 50 cc TAH-t, and destination therapy.

TandemLife**Booth: 823****Pittsburgh, PA**

CardiacAssist, Inc dba TandemLife exists to deliver Life Support Simplified, with one small pump enabling any type of extracorporeal circulatory support your patients may need. The company's unique pump has enabled it to develop its most innovative product lines to date: TandemLife, TandemLung, Protek Duo, and VoyagerVest.

Terumo**Booth: 617****Ann Arbor, MI**

Vascutek, a Terumo company, will display an extensive range of sealed woven and knitted polyester grafts for peripheral, abdominal, and cardiothoracic surgery. Terumo will display the VirtuoSaph® Plus Endoscopic Vessel Harvesting System, Beating Heart, and Surgical Stabilization products, and Terumo® Perfusion Products.

Thompson Surgical**Booth: 845****Traverse City, MI**

Thompson Surgical has been a leader in exposure for more than 50 years. Cardiovascular surgeons will benefit from the Thompson Surgical Bolling Retractor, which provides low-profile, stable, uncompromised exposure of the heart structures. The company provides innovative, high-quality systems that deliver safe, versatile retraction.

Thoramet Surgical**Booth: 241****Madison, CT**

Thoramet Surgical Products sells the most complete line of video-assisted thoracoscopic surgical instruments available. Produced in the USA in the company's own facilities, they are the surgeon's choice. Come to Booth 241 to see their unique versatility. Thoramet has the feel you want, the actuation you need, and the patterns you demand.

**Transonic
Ithaca, NY****Booth: 817**

Transonic is the original inventor and innovator of transit-time flow measurement devices for coronary artery bypass grafting surgery, congenital heart disease repair, cardiopulmonary bypass, and extracorporeal membrane oxygenation cases. For more than 33 years, Transonic flow measurement systems have been used to advance physiologic understanding, as well as to provide surgeons with peace of mind that their anastomoses are patent prior to closure.

**TS Consulting Inc
Las Vegas, NV****Booth: 941****Veran Medical Technologies
St Louis, MO****Booth: 917**

Veran is a privately held medical device company with a main focus on assisting physicians in the early diagnosis and treatment of lung cancer. Veran has developed and commercialized an FDA-cleared, next-generation electromagnetic navigation platform called the SPiN Thoracic Navigation System, which includes both endobronchial and transthoracic approaches.

**Virginia Cardiac Services Quality Initiative (VCSQI)
Virginia Beach, VA****Booth: 943**

VCSQI is a nonprofit consortium of cardiac practices whose mission is to improve heart care quality, patient experience, and costs. VCSQI's clinical-financial database helps clinicians identify best practices and measure the impact of quality initiatives. Its Support and Alignment Network (SAN2.0) program focuses on preparing practices for the transition to advanced alternative payment models.

**Vitalcor, Inc/Applied Fiberoptics
Westmont, IL****Booth: 1203**

Vitalcor, Inc is a supplier of medical devices used primarily in cardiothoracic surgery. Since 1975, Vitalcor has provided products that take input from teaching and practicing surgeons to make their practice easier. The company takes pride in offering quality products and providing exceptional customer service.

**Vitalitec Geister
Plymouth, MA****Booth: 813**

Vitalitec Geister will be displaying all of its products, highlighting the Peters CV Suture, Enclose II Anastomosis Assist Device, Cygnet Flexible Clamps, Intrack Atraumatic Temporary Clamps and Inserts, and Geister ValveGate and ValveGate PRO line.

**Wexler Surgical, Inc
Houston, TX****Booth: 329**

Wexler Surgical designs and manufactures a variety of titanium and stainless steel specialty surgical instruments and products for cardiac, vascular, thoracic, and microsurgery. Come see its VATS/MICS instruments and ask about the Optimus Series. Visit www.wexlersurgical.com for more information about products and services, or e-mail sales@wexlersurgical.com.

**Wolters Kluwer
Phoenix, AZ****Booth: 114**

**Xenosys USA
Austin, TX****Booth: 851**

Xenosys USA serves the cardiac, thoracic, and vascular community with innovative products, including portable next-generation LED surgical headlights offering freedom and convenience at less than 1 oz weight; a full range of custom surgical loupes giving an unbeatable field of vision and depth of focus, all while being light and comfortable; and the Xenosys wireless HD surgical camera system.

**Zimmer Biomet Thoracic
Jacksonville, FL****Booth: 715**

Founded in 1927, Zimmer Biomet is a global leader in musculoskeletal health care. The company designs, manufactures, and markets a comprehensive portfolio of innovative thoracic products and treatment solutions for surgeons and patients, including the RibFix™ Blu Thoracic Fixation System and the SternaLock® Blu Primary Closure System.

President

Joseph E. Bavaria | Philadelphia, PA

First Vice President

Richard L. Prager | Ann Arbor, MI

Second Vice President & Secretary

Keith S. Naunheim | St Louis, MO

Secretary-Elect

Joseph F. Sabik III | Cleveland, OH

Treasurer

Robert S. D. Higgins | Baltimore, MD

Treasurer-Elect

Thomas E. MacGillivray | Houston, TX

Immediate Past President

Mark S. Allen | Rochester, MN

Resident Director

Damien J. LaPar | Boston, MA

International Directors

Haiquan Chen | Shanghai, China

A. Pieter Kappetein | Rotterdam, The Netherlands

Canadian Director

Sean C. Grondin | Calgary, Canada

Public Director

Tony Coelho | Washington, DC

Directors-at-Large

Shanda H. Blackmon | Rochester, MN

Joseph C. Cleveland Jr | Aurora, CO

Joseph A. Dearani | Rochester, MN

Bryan F. Meyers | St Louis, MO

Vinod H. Thourani | Atlanta, GA

Cameron D. Wright | Boston, MA

Editor

G. Alexander Patterson | St Louis, MO

Historian

Nicholas T. Kouchoukos | St Louis, MO

EXECUTIVE COMMITTEE

Joseph E. Bavaria, Chair | Philadelphia, PA

Mark S. Allen | Rochester, MN

Robert S. D. Higgins | Baltimore, MD

Keith S. Naunheim | St Louis, MO

Richard L. Prager | Ann Arbor, MI

Joseph F. Sabik III | Cleveland, OH

FINANCE COMMITTEE

Douglas E. Wood, Chair | Seattle, WA

David A. Fullerton | Aurora, CO

Douglas J. Mathisen | Boston, MA

Robert S. D. Higgins, Ex-Officio | Baltimore, MD

Thomas E. MacGillivray, Ex-Officio | Houston, TX

Keith S. Naunheim, Ex-Officio | St Louis, MO

Richard L. Prager, Ex-Officio | Ann Arbor, MI

MEMBERSHIP COMMITTEE

Gail E. Darling, Chair | Toronto, Canada

Leah M. Backhus | Stanford, CA

Robert J. Dabal | Birmingham, AL

Daniel L. Fortes | Austin, TX

Kamal R. Khabbaz | Boston, MA

Michael G. Moront | Toledo, OH

Wilson Y. Szeto | Philadelphia, PA

Michael J. Weyant | Aurora, CO

NOMINATING COMMITTEE

Michael J. Mack, Chair | Dallas, TX

Jeffrey B. Rich | Virginia Beach, VA

Douglas E. Wood | Seattle, WA

David A. Fullerton | Aurora, CO

Mark S. Allen | Rochester, MN

Joseph E. Bavaria, Ex-Officio, Non-Voting | Philadelphia, PA

STANDARDS AND ETHICS COMMITTEE

Richard I. Whyte, Chair | Boston, MA

Thomas A. D'Amico | Durham, NC

G. Michael Deeb | Ann Arbor, MI

Jennifer L. Ellis | Washington, DC

John W. Entwistle II | Philadelphia, PA

Richard K. Freeman | Indianapolis, IN

James Jagers | Aurora, CO

John E. Mayer Jr | Boston, MA

Walter H. Merrill | Nashville, TN

Scott J. Millikan | Billings, MT

John D. Mitchell | Aurora, CO

R. Scott Mitchell | Stanford, CA

Sandra L. Starnes | Cincinnati, OH

Douglas E. Wood | Seattle, WA

Mark S. Allen, Ex-Officio | Rochester, MN

COUNCIL ON MEETINGS AND EDUCATION

OPERATING BOARD

Wilson Y. Szeto | Council Chair

Wilson Y. Szeto | Chair, Workforce on Annual Meeting

Robert L. Kormos | Chair, Workforce on Clinical Education

Mark S. Allen | Chair, Workforce on E-Learning and Educational Innovation

Vinod H. Thourani | Chair, Workforce on New Technology

Ara A. Vaporciyan | Chair, Workforce on Thoracic Surgery Resident Issues

WORKFORCE ON ANNUAL MEETING

Wilson Y. Szeto, Chair | Philadelphia, PA

Mark F. Berry | Stanford, CA

Jonathan M. Chen | Seattle, WA

Richard Lee | St Louis, MO

Joseph B. Shrager | Stanford, CA

Thomas K. Varghese Jr | Salt Lake City, UT

WORKFORCE ON ANNUAL MEETING (PROGRAM TASK FORCE)

Wilson Y. Szeto, Chair | Philadelphia, PA

Jehangir J. Appoo | Calgary, Canada

Edward P. Chen | Atlanta, GA

David T. Cooke | Sacramento, CA

Farhood Farjah | Seattle, WA

Thomas G. Gleason | Pittsburgh, PA

Richard Lee | St Louis, MO

Christopher R. Morse | Boston, MA

Christian Pizarro | Wilmington, DE

T. Brett Reece | Aurora, CO

Brett C. Sheridan | San Francisco, CA

James S. Tweddell | Cincinnati, OH

WORKFORCE ON ANNUAL MEETING (STS UNIVERSITY TASK FORCE)

Thomas K. Varghese Jr, Chair | Salt Lake City, UT

Aaron M. Cheng | Seattle, WA

Nahush A. Mokadam | Seattle, WA

Matthew A. Romano | Ann Arbor, MI

Craig H. Selzman | Salt Lake City, UT

Mathew Thomas | Jacksonville, FL

Betty C. Tong | Durham, NC

WORKFORCE ON ANNUAL MEETING (SURGICAL SYMPOSIA TASK FORCE)

Jonathan M. Chen, Co-Chair | Seattle, WA

Joseph B. Shrager, Co-Chair | Stanford, CA

Traves P. Crabtree | Springfield, IL

Anthony W. Kim | Branford, CT

Christopher E. Mascio | Philadelphia, PA

Glen S. Van Arsdell | Toronto, Canada

WORKFORCE ON ANNUAL MEETING (TECH-CON TASK FORCE)*

Mark F. Berry, Co-Chair | Stanford, CA

Richard Lee, Co-Chair | St Louis, MO

Nimesh Desai | Philadelphia, PA

T. Sloane Guy | Elkins Park, PA

Ali Khoynzhad** | Los Angeles, CA

James D. Luketich | Pittsburgh, PA

Himanshu J. Patel | Ann Arbor, MI

Michael F. Reed | Hershey, PA

John M. Stulak | Rochester, MN

Rakesh M. Suri | Cleveland, OH

Mathew R. Williams | New York, NY

***Joint STS/AATS activity**

****AATS representative**

WORKFORCE ON CLINICAL EDUCATION

Robert L. Kormos, Chair | Pittsburgh, PA

Faisal G. Bakaeen | Cleveland, OH

Edward M. Bender | Cape Girardeau, MO

Andrea J. Carpenter | San Antonio, TX

David T. Cooke | Sacramento, CA

Kevin L. Greason | Rochester, MN

Sara J. Shumway | Minneapolis, MN

Ara A. Vaporciyan | Houston, TX

Thomas K. Varghese Jr | Salt Lake City, UT

Jennifer D. Walker | Worcester, MA

WORKFORCE ON E-LEARNING AND EDUCATIONAL INNOVATION

Mark S. Allen, Chair | Rochester, MN

Mara B. Antonoff | Houston, TX

Craig J. Baker | Los Angeles, CA

John H. Calhoon | San Antonio, TX

James I. Fann | Stanford, CA

David A. Fullerton | Aurora, CO

Douglas J. Mathisen | Boston, MA

Fenton H. McCarthy | Philadelphia, PA

Bryan F. Meyers | St Louis, MO

Nahush A. Mokadam | Seattle, WA

Keith S. Naunheim | St Louis, MO

Asad A. Shah | Durham, NC

Richard J. Shemin | Los Angeles, CA

Sandra L. Starnes | Cincinnati, OH

Ara A. Vaporciyan | Houston, TX

Edward D. Verrier | Seattle, WA

Stephen C. Yang | Baltimore, MD

WORKFORCE ON NEW TECHNOLOGY*

Vinod H. Thourani, Chair | Atlanta, GA

Joshua N. Baker | St Louis, MO

Todd L. Demmy | New Brunswick, NJ

Christian D. Etz | Saxony, Germany

Enrico R. Ferrari | Lugano, Switzerland

Charles D. Fraser Jr.** | Houston, TX

Kamal R. Khabbaz | Boston, MA

Zachary N. Kon | Baltimore, MD

Robert L. Kormos | Pittsburgh, PA

John C. Laschinger | Silver Spring, MD

David M. McMullan | Seattle, WA

Stephanie L. Mick | Cleveland, OH

Christopher R. Morse | Boston, MA

Davide Pacini | Bologna, Italy

Jonathan M. Philpott | Norfolk, VA

T. Brett Reece | Aurora, CO

David C. Rice | Houston, TX

Eric E. Roselli** | Cleveland, OH

Sunil Singhal | Philadelphia, PA

Wilson Y. Szeto | Philadelphia, PA

Kazuhiro Yasufuku** | Toronto, Canada

Joseph B. Zwischenberger | Lexington, KY

***Joint STS/AATS activity**

****AATS representative**

WORKFORCE ON THORACIC SURGERY RESIDENT ISSUES

Ara A. Vaporciyan, Chair | Houston, TX

Craig J. Baker | Los Angeles, CA

Edo K.S. Bedzra | Seattle, WA

Edward P. Chen | Atlanta, GA

Elizabeth A. David | Davis, CA

Michael P. Fischbein | Stanford, CA

Sidharta P. Gangadharan | Boston, MA

Mark D. Iannettoni | Greenville, NC

Michael E. Jessen | Dallas, TX

Jules Lin | Ann Arbor, MI

Ryan A. Macke | Madison, WI

Janani S. Reisenauer | Rochester, MN

Danielle Smith | Chicago, IL

Curt Tribble | Charlottesville, VA

Leora T. Yarboro | Charlottesville, VA

COUNCIL ON QUALITY, RESEARCH, AND PATIENT SAFETY**OPERATING BOARD**

- David M. Shahian | Council Chair
Faisal G. Bakaeen | Chair, Workforce on Evidence Based Surgery
Jeffrey P. Jacobs | Chair, Workforce on National Databases
James I. Fann | Chair, Workforce on Patient Safety
Fred H. Edwards | Chair, Workforce on Research Development
Michael J. Mack | Appointed Member
Domenico Pagano | Appointed Member
Joe B. Putnam Jr | Appointed Member
Richard J. Shemin | Appointed Member
Elizabeth H. Stephens | Resident Appointee
Joseph A. Dearani | Ex-Officio
Bryan F. Meyers | Ex-Officio
Keith S. Naunheim | Ex-Officio

WORKFORCE ON EVIDENCE BASED SURGERY

- Faisal G. Bakaeen, Chair | Cleveland, OH
Anders Ahlsson | Orebro, Sweden
Vinay Badhwar | Morgantown, WV
Justin D. Blasberg | Westport, CT
Joel Dunning | Middlesbrough, United Kingdom
Melanie A. Edwards | St Louis, MO
Farhood Farjah | Seattle, WA
Mark K. Ferguson | Chicago, IL
Felix G. Fernandez | Atlanta, GA
Michael P. Fischbein | Stanford, CA
Michael E. Jessen | Dallas, TX
Michael Lanuti | Boston, MA
Jennifer S. Lawton | Baltimore, MD
Donald E. Low | Seattle, WA
Robert S. McClure | Calgary, Canada
Dan M. Meyer | Dallas, TX
Susan D. Moffatt-Bruce | Columbus, OH
Bernard J. Park | New York, NY
Todd K. Rosengart | Houston, TX
Craig H. Selzman | Salt Lake City, UT
Michael A. Smith | Phoenix, AZ
Matthew L. Williams | Philadelphia, PA

WORKFORCE ON NATIONAL DATABASES

Jeffrey P. Jacobs, Chair | St Petersburg, FL
Andrew C. Chang | Ann Arbor, MI
Richard S. D'Agostino | Burlington, MA
Nimesh Desai | Philadelphia, PA
Melanie A. Edwards | St Louis, MO
Farhood Farjah | Seattle, WA
Christopher M. Feindel | Toronto, Canada
Felix G. Fernandez | Atlanta, GA
Kristine J. Guleserian | Dallas, TX
Marshall L. Jacobs | Newtown Square, PA
A. Pieter Kappetein | Rotterdam, The Netherlands
Mark R. Katlic | Baltimore, MD
Benjamin D. Kozower | St Louis, MO
John C. Kucharczuk | Philadelphia, PA
Dorothy J. Latham | Marysville, MI
Ryan F. Lauer | Loma Linda, CA
Bohdan Maruszewski | Warsaw, Poland
Noboru Motomura | Sakura-City, Japan
Francis D. Pagani | Ann Arbor, MI
Domenico Pagano | Birmingham, United Kingdom
Daniel P. Raymond | Cleveland, OH
Joseph B. Shrager | Stanford, CA
Alan M. Speir | Falls Church, VA
Rakesh M. Suri | Cleveland, OH
James E. Tcheng | Durham, NC

WORKFORCE ON PATIENT SAFETY

James I. Fann, Chair | Stanford, CA

Giorgio M. Aru | Jackson, MS

Stephen C. Clark | Newcastle upon Tyne, United Kingdom

W. Chance Conner | Austin, TX

J. Michael DiMaio | Dallas, TX

T. Sloane Guy | Elkins Park, PA

Michal Hubka | Seattle, WA

Michael S. Kent | Boston, MA

Kevin W. Lobdell | Charlotte, NC

Robert A. Meguid | Aurora, CO

Susan D. Moffatt-Bruce | Columbus, OH

Theolyn N. Price | Colorado Springs, CO

WORKFORCE ON RESEARCH DEVELOPMENT

Fred H. Edwards, Chair | Jacksonville, FL

Pedro J. del Nido | Boston, MA

Felix G. Fernandez | Atlanta, GA

Michael P. Fischbein | Stanford, CA

David A. Fullerton | Aurora, CO

James S. Gammie | Baltimore, MD

Keith A. Horvath | Bethesda, MD

Jeffrey P. Jacobs | St Petersburg, FL

David R. Jones | New York, NY

M. Blair Marshall | Washington, DC

Joe B. Putnam Jr | Jacksonville, FL

Gregory D. Rushing | Columbus, OH

Frank W. Sellke | Providence, RI

David M. Shahian | Boston, MA

COUNCIL ON HEALTH POLICY AND RELATIONSHIPS

OPERATING BOARD

Douglas J. Mathisen | Council Chair

Francis C. Nichols III | Chair, Workforce on Coding and Reimbursement

Alan M. Speir | Chair, Workforce on Health Policy, Reform, and Advocacy

A. Pieter Kappetein | Chair, Workforce on International Relationships

Robbin G. Cohen | Chair, Workforce on Media Relations and
Communications

Tony Coelho | Appointed Member

John V. Conte | Appointed Member

John E. Mayer Jr | Appointed Member

Jeffrey B. Rich | Appointed Member

Amanda L. Eilers | Resident Appointee

Richard L. Prager | Ex-Officio

Cameron D. Wright | Ex-Officio

WORKFORCE ON CODING AND REIMBURSEMENT

Francis C. Nichols III, Chair | Rochester, MN

Stephen J. Lahey, Vice Chair | Farmington, CT

Aaron M. Cheng | Seattle, WA

Verdi J. DiSesa | Philadelphia, PA

Richard K. Freeman | Indianapolis, IN

Kevin L. Greason | Rochester, MN

Michael E. Halkos | Atlanta, GA

John A. Howington | Nashville, TN

Jeffrey P. Jacobs | St Petersburg, FL

Vigneshwar Kasirajan | Richmond, VA

James M. Levett | Cedar Rapids, IA

Alex G. Little | Tucson, AZ

Vassyl A. Lonchyna | Chicago, IL

Daniel P. McCarthy | Seattle, WA

Anastasios C. Polimenakos | Augusta, GA

Clifton C. Reade | Chattanooga, TN

Sanjay A. Samy | Albany, NY

James R. Scharff | St Louis, MO

Scott C. Silvestry | Orlando, FL

James D. St. Louis | Kansas City, MO

Lars G. Svensson | Cleveland, OH

Prashanth Vallabhajosyula | Philadelphia, PA

Winfield J. Wells | Los Angeles, CA

WORKFORCE ON HEALTH POLICY, REFORM, AND ADVOCACY*

Alan M. Speir, Chair | Falls Church, VA

Kevin D. Accola | Orlando, FL

Michael K. Banbury | Newark, DE

Robert S. Boova | Philadelphia, PA

John H. Calhoun | San Antonio, TX

Jeremy Conklin | Dallas, TX

J. Michael DiMaio** | Dallas, TX

Aaron W. Eckhauser | Salt Lake City, UT

Frederick L. Grover | Aurora, CO

Jeremiah A. Hayanga | Pittsburgh, PA

Stephen J. Lahey | Farmington, CT

Richard Lee | St Louis, MO

Mitchell J. Magee | Dallas, TX

Scott J. Millikan | Billings, MT

Susan D. Moffatt-Bruce** | Columbus, OH

Alykhan S. Nagji | Kansas City, KS

Ourania A. Preventza | Houston, TX

Paul D. Robison | Cape Girardeau, MO

Todd K. Rosengart** | Houston, TX

Eric L. Sarin | Atlanta, GA

Raymond L. Singer | Allentown, PA

Jess L. Thompson III | Oklahoma City, OK

Bruce Toporoff | Suffern, NY

Richard I. Whyte | Boston, MA

***Joint STS/AATS activity**

****AATS representative**

WORKFORCE ON INTERNATIONAL RELATIONSHIPS

A. Pieter Kappetein, Chair | Rotterdam, The Netherlands

Gabriel S. Aldea | Seattle, WA

Christian Bermudez | Philadelphia, PA

Graciano Castillo-Ortega | Hermosillo Son, Mexico

Haiquan Chen | Shanghai, China

Juan Crestanello | Columbus, OH

Jose Ribas De Campos | São Paulo, Brazil

Sebastian A. Defranchi | Buenos Aires, Argentina

Ali Dodge-Khatami | Jackson, MS

Enrico R. Ferrari | Lugano, Switzerland

Changqing Gao | Beijing, China

Tarmizi Hakim | Jakarta, Indonesia

Jeremiah A. Hayanga | Pittsburgh, PA

Chuen Neng Lee | Singapore, Singapore

Patrick O. Myers | Geneva, Switzerland

Davide Pacini | Bologna, Italy

Chittoor B. Sai-Sudhakar | Temple, TX

Hon Chi Suen | St Louis, MO

Yuichi Ueda | Nara, Japan

Juan P. Umana | Bogota, Colombia

Song Wan | Hong Kong, China

Moritz C. Wyler von Ballmoos | Milwaukee, WI

WORKFORCE ON MEDIA RELATIONS AND COMMUNICATIONS

Robbin G. Cohen, Chair | Los Angeles, CA

Mara B. Antonoff | Houston, TX

Leah M. Backhus | Stanford, CA

John V. Conte | Baltimore, MD

James R. Edgerton | Dallas, TX

Richard H. Feins | Chapel Hill, NC

Frederick L. Grover | Aurora, CO

Steven W. Guyton | Shoreline, WA

Linda W. Martin | Charlottesville, VA

Jeffrey B. Rich | Virginia Beach, VA

Todd K. Rosengart | Houston, TX

Mark J. Russo | Newark, NJ

K. Robert Shen | Rochester, MN

COUNCIL ON CLINICAL PRACTICE AND MEMBER ENGAGEMENT**OPERATING BOARD**

Francis D. Pagani | Council Chair

John S. Ikonomidis | Chair, Workforce on Adult Cardiac and Vascular Surgery

Walter H. Merrill | Chair, Workforce on Associate Membership

Vinay Badhwar | Chair, Workforce on Career Development

James S. Tweddell | Chair, Workforce on Congenital Heart Surgery

Glenn J. R. Whitman | Chair, Workforce on Critical Care

Sean C. Grondin | Chair, Workforce on General Thoracic Surgery

Frank L. Fazzalari | Chair, Workforce on Practice Management

Jennifer S. Nelson | Chair, Workforce on Surgical Treatment of Adults with Congenital Heart Disease

Francis D. Pagani | Chair, Workforce on Surgical Treatment of End-Stage Cardiopulmonary Disease

WORKFORCE ON ADULT CARDIAC AND VASCULAR SURGERY

John S. Ikonomidis, Chair | Charleston, SC

Niv Ad | Falls Church, VA

Gorav Ailawadi | Charlottesville, VA

James E. Davies Jr | Birmingham, AL

Aubrey C. Galloway Jr | New York, NY

Robert C. Hagberg | Hartford, CT

G. Chad Hughes | Durham, NC

Robert L. Kormos | Pittsburgh, PA

Jennifer S. Lawton | Baltimore, MD

T. Brett Reece | Aurora, CO

Ramesh Singh | Falls Church, VA

Elaine E. Tseng | San Francisco, CA

WORKFORCE ON ASSOCIATE MEMBERSHIP

Walter H. Merrill, Chair | Nashville, TN

Ayesha S. Bryant | Birmingham, AL

Aaron M. Cheng | Seattle, WA

Katherine F. Cornelius | Birmingham, AL

David C. Fitzgerald | Mount Pleasant, VA

Kathryn Gray DeAngelis | Philadelphia, PA

Cathy E. Knoff | Dallas, TX

Allison Leonard | Dallas, TX

Sondra (Jill) Ley | San Francisco, CA

David E. Lizotte | Louisville, KY

Nicole M. Michaud | Franklin, TN

Edward A. Ranzenbach | Sacramento, CA

Stefano Schena | St Louis, MO

Harmik J. Soukiasian | Los Angeles, CA

Brandon H. Tieu | Portland, OR

WORKFORCE ON CAREER DEVELOPMENT

Vinay Badhwar, Chair | Morgantown, WV

Shanda H. Blackmon | Rochester, MN

Jonathan D'Cunha | Pittsburgh, PA

Nimesh Desai | Philadelphia, PA

Melanie A. Edwards | St Louis, MO

Frank L. Fazzalari | Ann Arbor, MI

Robert S. D. Higgins | Baltimore, MD

Jeffrey P. Jacobs | St Petersburg, FL

Damien J. LaPar | Boston, MA

Bradley G. Leshnower | Atlanta, GA

Gabriel Loor | Minneapolis, MN

Muhammad Faraz Masood | St Louis, MO

David D. Odell | Chicago, IL

V. Seenu Reddy | Nashville, TN

Eric L. Sarin | Atlanta, GA

Vinod H. Thourani | Atlanta, GA

WORKFORCE ON CONGENITAL HEART SURGERY

James S. Tweddell, Chair | Cincinnati, OH

Joseph A. Dearani | Rochester, MN

Kristine J. Guleserian | Dallas, TX

S. Adil Husain | San Antonio, TX

James Jagers | Denver, CO

Kirk R. Kanter | Atlanta, GA

Aditya K. Kaza | Boston, MA

Deborah J. Kozik | Louisville, KY

David M. McMullan | Seattle, WA

Eric N. Mendeloff | Dallas, TX

Bret A. Mettler | Nashville, TN

James D. St. Louis | Kansas City, MO

Glen S. Van Arsdell | Toronto, Canada

WORKFORCE ON CRITICAL CARE

Glenn J. R. Whitman, Chair | Baltimore, MD

Rakesh C. Arora | Winnipeg, Canada

Daniel T. Engelman | Springfield, MA

Michael S. Firstenberg | Akron, OH

Charles M. Geller | Wynnewood, PA

James M. Isbell | New York, NY

Vassyl A. Lonchyna | Chicago, IL

Rita C. Milewski | Philadelphia, PA

Rainer G. H. Moosdorf | Marburg, Germany

Michael S. Mulligan | Seattle, WA

Joseph Rabin | Baltimore, MD

Dan J. Raz | Los Angeles, CA

Jay G. Shake | Jackson, MS

Michael H. Wall | Minneapolis, MN

Thomas B. Washburn Jr | Huntsville, AL

WORKFORCE ON GENERAL THORACIC SURGERY

Sean C. Grondin, Chair | Calgary, Canada
Shanda H. Blackmon | Rochester, MN
Robert J. Cerfolio | Birmingham, AL
Jessica S. Donington | New York, NY
Stephen R. Hazelrigg | Springfield, IL
Michael S. Mulligan | Seattle, WA
Christopher J. Mutrie | Memphis, TN
Bernard J. Park | New York, NY
Allan Pickens | Atlanta, GA
Dirk E. M. Van Raemdonck | Leuven, Belgium
Thomas K. Waddell | Toronto, Canada
Michael J. Weyant | Aurora, CO
Richard I. Whyte | Boston, MA

WORKFORCE ON PRACTICE MANAGEMENT

Frank L. Fazzalari, Chair | Ann Arbor, MI
Matthew G. Blum | Colorado Springs, CO
Greg A. Bowman | Pueblo, CO
Alfred S. Casale | Wilkes-Barre, PA
Robert W. Emery Jr | Minneapolis, MN
Paul S. Levy | Jonesboro, AR
Michael G. Moront | Toledo, OH
Joseph R. Newton Jr | Norfolk, VA
V. Seenu Reddy | Nashville, TN
William H. Ryan | Dallas, TX
Heather Smith | Philadelphia, PA

WORKFORCE ON SURGICAL TREATMENT OF ADULTS WITH CONGENITAL HEART DISEASE

Jennifer S. Nelson, Chair | Chapel Hill, NC
Sertac Cicek | Istanbul, Turkey
Joseph A. Dearani | Rochester, MN
Eric N. Feins | Boston, MA
Stephanie M. Fuller | Philadelphia, PA
Joshua L. Hermsen | Seattle, WA
Charles B. Huddleston | St Louis, MO
Robert D. B. Jaquiss | Durham, NC
Frank G. Scholl | Hollywood, FL
James S. Tweddell | Cincinnati, OH

**WORKFORCE ON SURGICAL TREATMENT OF END-STAGE
CARDIOPULMONARY DISEASE**

Francis D. Pagani, Chair | Ann Arbor, MI

Michael A. Acker | Philadelphia, PA

Pavan Atluri | Philadelphia, PA

Ashok N. Babu | Nashville, TN

Todd M. Dewey | Dallas, TX

Marzia Leacche | Cleveland, OH

Michael F. McGrath | Norfolk, VA

Bryan F. Meyers | St Louis, MO

Carmelo A. Milano | Durham, NC

Jay D. Pal | Seattle, WA

Nicholas G. Smedira | Cleveland, OH

Michael J. Weyant | Aurora, CO

Bryan A. Whitson | Columbus, OH

Giorgio Zanotti | Aurora, CO

STS-PAC BOARD OF ADVISORS

STS-PAC BOARD OF ADVISORS

Douglas J. Mathisen, Chair, Ex-Officio | Boston, MA

Richard L. Prager, Ex-Officio | Ann Arbor, MI

Robert S. D. Higgins, Ex-Officio | Baltimore, MD

Mark S. Allen, Ex-Officio | Rochester, MN

Damien J. LaPar, Ex-Officio | Boston, MA

Alan M. Speir, Ex-Officio | Falls Church, VA

Richard K. Freeman | Indianapolis, IN

Richard Lee | St Louis, MO

Raymond L. Singer | Allentown, PA

Robert A. Wynbrandt, Ex-Officio | Chicago, IL

Courtney Yohe, Ex-Officio | Washington, DC

The Annals of Thoracic Surgery Editorial Board**EDITOR**

G. Alexander Patterson | St Louis, MO

DEPUTY EDITORS*Adult Cardiac*

James S. Gammie | Baltimore, MD

John A. Kern | Charlottesville, VA

Jennifer S. Lawton | Baltimore, MD

Congenital Heart

Scott M. Bradley | Charleston, SC

Jennifer C. Romano | Ann Arbor, MI

General Thoracic

Mark K. Ferguson | Chicago, IL

James D. Luketich | Pittsburgh, PA

Biostatistics

Graham Colditz | St Louis, MO

CME

Colleen G. Koch | Baltimore, MD

Education

Thomas E. MacGillivray | Houston, TX

Interactive Learning

Shanda H. Blackmon | Rochester, MN

Public Policy

Douglas J. Mathisen | Boston, MA

Quality

Richard L. Prager | Ann Arbor, MI

ASSOCIATE EDITORS*CME*

Rick A. Esposito | Manhasset, NY

Kirk R. Kanter | Atlanta, GA

Kemp H. Kernstine | Dallas, TX

Feroze Mahmood | Boston, MA

Nicholas G. Smedira | Cleveland, OH

Ethics

Robert M. Sade | Charleston, SC

Surgical Heritage

Nicholas T. Kouchoukos | St Louis, MO

Feature Articles

Gorav Ailawadi | Charlottesville, VA

Daniel J. Boffa | New Haven, CT

Derek R. Brinster | New York, NY

Joanna Chikwe | New York, NY

Robert D. B. Jaquiss | Durham, NC

Mitchell J. Magee | Dallas, TX

M. Blair Marshall | Washington, DC

Jorge D. Salazar | Boston, MA

Mark S. Slaughter | Louisville, KY

Thomas J. Vander Salm | Salem, MA

EDITORIAL BOARD MEMBERS

Mark S. Allen | Rochester, MN

Nasser K. Altorki | New York, NY

Mara B. Antonoff | Houston, TX

Hisao Asamura | Tokyo, Japan

Ko Bando | Tokyo, Japan

Stefano Benussi | Milan, Italy

William J. Brawn | Birmingham, United Kingdom

Alessandro Brunelli | Leeds, United Kingdom

Albert T. Cheung | Philadelphia, PA

Traves P. Crabtree | Springfield, IL

Steven R. DeMeester | Los Angeles, CA

Jessica S. Donington | New York, NY

Yves d'Udekem | Melbourne, Australia

Fred H. Edwards | Jacksonville, FL

Pirooz Eghtesady | St Louis, MO

Anthony L. Estrera | Houston, TX

Wentao Fang | Shanghai, China

Farhood Farjah | Seattle, WA

Felix G. Fernandez | Atlanta, GA

Hiran C. Fernando | Boston, MA

Seth D. Force | Atlanta, GA

Robert C. Gorman | Philadelphia, PA

Michael Grimm | Vienna, Austria
Eugene A. Grossi | New York, NY
Kristine J. Guleserian | Dallas, TX
Jie He | Beijing, China
George L. Hicks Jr | Rochester, NY
Tain-Yen Hsia | London, United Kingdom
G. Chad Hughes | Durham, NC
S. Adil Husain | San Antonio, TX
Jeffrey P. Jacobs | St Petersburg, FL
A. Pieter Kappetein | Rotterdam, The Netherlands
Tara Karamlou | San Francisco, CA
Ki-Bong Kim | Seoul, Republic of Korea
Arkalgud Sampath Kumar | Delhi, India
Damien J. LaPar | Boston, MA
Scott A. LeMaire | Houston, TX
Tomislav Mihaljevic | Cleveland, OH
Nader Moazami | Cleveland, OH
Susan D. Moffatt-Bruce | Columbus, OH
Nahush A. Mokadam | Seattle, WA
Yoshifumi Naka | New York, NY
Sara K. Pasquali | Ann Arbor, MI
Mark D. Rodefeld | Indianapolis, IN
Marc Ruel | Ottawa, Canada
Lindsey L. Saint | St Louis, MO
Shunji Sano | Okayama, Japan
Isabelle Schmitt-Opitz | Zurich, Switzerland
Joseph B. Shrager | Stanford, CA
Vinod H. Thourani | Atlanta, GA
Glen S. Van Arsdell | Toronto, Canada
Thomas K. Varghese Jr | Salt Lake City, UT
Thomas Walther | Nauheim, Germany
Song Wan | Hong Kong, China
Daniel Wendt | Essen, Germany
Rashmi Yadav | London, United Kingdom
Jian Zhuang | Guangzhou, China

Accreditation Committee for Perfusion Education (AC-PE)

Thomas E. MacGillivray | Houston, TX

James S. Tweddell | Cincinnati, OH

American Association for Thoracic Surgery (AATS)

Education Committee/Postgraduate Course Advisory Subcommittee

Wilson Y. Szeto | Philadelphia, PA

Scientific Affairs and Government Relations Committee

Keith A. Horvath | Bethesda, MD

American Board of Thoracic Surgery (ABTS)

Cameron D. Wright (Chair) | Boston, MA

Bryan F. Meyers (Vice Chair) | St Louis, MO

Joseph A. Dearani | Rochester, MN

Joe B. Putnam Jr | Jacksonville, FL

American College of Cardiology (ACC)

Advocacy Committee

John E. Mayer Jr | Boston, MA

ACC Coding and Nomenclature Committee

Stephen J. Lahey (Special Liaison) | Farmington, CT

Appropriate Use Criteria for Severe Symptomatic Aortic Stenosis Writing Committee

Michael J. Mack | Dallas, TX

National Cardiovascular Data Registry (NCDR) Science and Quality Oversight Committee (SQOC)

David M. Shahian | Boston, MA

Revision of 2012 Coronary Revascularization Appropriate Use Criteria (AUC) Writing Committee

Peter K. Smith | Durham, NC

American College of Cardiology Foundation (ACCF)

Update to the 2012 Expert Consensus Document on Transcatheter Aortic Valve Replacement (TAVR) Writing Committee

Fred H. Edwards | Jacksonville, FL

Michael J. Mack | Dallas, TX

American College of Cardiology Foundation/American Heart Association (ACCF/AHA)

2012 Focused Report on Data Standards for Description of Myocardial Ischemia Writing Committee

Steven J. Hoff | Orlando, FL

2015 Guideline for the Management of Adults with Congenital Heart Disease Writing Committee

Joseph A. Dearani | Rochester, MN

Guideline Focused Update on Dual Antiplatelet Therapy (DAPT) Steering Committee

Michael J. Mack | Dallas, TX

American College of Radiology (ACR)

Appropriateness Criteria Writing Committee on Chylothorax Treatment Planning

Michael S. Kent | Boston, MA

Appropriateness Criteria Expert Panels on Thoracic Imaging and Radiation Oncology-Lung

Traves P. Crabtree | Springfield, IL

Mark D. Iannettoni | Greenville, NC

Appropriateness Criteria Writing Committee on Suspected Thoracic Aortic Aneurysm

Ali Khojenezhad | Los Angeles, CA

Appropriateness Criteria Writing Committee on Thoracic Aorta Interventional Planning and Follow-Up

Eric Roselli | Cleveland, OH

American College of Surgeons (ACS)

Board of Governors

Charles R. Bridges | Somerville, NJ

Advisory Council for Cardiothoracic Surgery

James I. Fann | Stanford, CA

John D. Mitchell | Aurora, CO

Commission on Cancer

Michael Lanuti | Boston, MA

American Geriatrics Society (AGS)

Council of the Section for Enhancing Geriatric Understanding and Expertise Among Surgical and Medical Specialists

Joseph C. Cleveland Jr | Aurora, CO

Mark R. Katlic | Baltimore, MD

Ronald M. Weintraub (Alternate) | Cambridge, MA

American Heart Association (AHA)

Cardiovascular Clinical Working Group

David M. Shahian | Boston, MA

American Heart Association/American Stroke Association (AHA/ASA)

Council on Cardiovascular Surgery and Anesthesia

John S. Ikonomidis | Charleston, SC

American Medical Association (AMA)

House of Delegates

Jeffrey P. Gold | Omaha, NE

Robert M. Vanecko (Alternate) | Chicago, IL

Current Procedural Terminology (CPT) Advisory Committee

Francis C. Nichols III | Rochester, MN

Jeffrey P. Jacobs (Alternate) | St Petersburg, FL

STS REPRESENTATIVES & CONTACTS

Relative Value Update Committee (RUC)

Verdi J. DiSesa | Philadelphia, PA

Joseph C. Cleveland Jr (Alternate) | Aurora, CO

James M. Levett (RUC Advisory Committee) | Cedar Rapids, IA

American Society of Clinical Oncology (ASCO)

Gastrointestinal Cancers Symposium

Michael S. Kent | Boston, MA

K. Robert Shen | Rochester, MN

American Society of Clinical Oncology/American Society of Radiation Oncology/The Society of Thoracic Surgeons (ASCO/ASTRO/STS)

Thoracic Symposium Steering Committee

Jessica S. Donington | New York, NY

Richard I. Whyte | Boston, MA

Thoracic Symposium Program Committee

David T. Cooke | Sacramento, CA

Melanie A. Edwards | St Louis, MO

Mark K. Ferguson | Chicago, IL

Linda W. Martin | Charlottesville, VA

American Society of Echocardiography (ASE)

Guidelines for the Use of TEE to Assist with Surgical Decision-Making in the Operating Room: A Surgery-Based Approach Writing Committee

Niv Ad | Falls Church, VA

Francis D. Pagani | Ann Arbor, MI

American Thoracic Society (ATS)

Joseph LoCicero III | Mobile, AL

American Thoracic Society/Society of Thoracic Radiology/Society of Thoracic Surgeons (ATS/STR/STS)

Guidelines for the Management of Malignant Pleural Effusions

Malcolm M. DeCamp | Chicago, IL

Brookings Institution

National Medical Device Postmarket Surveillance System Planning Board

Michael J. Mack | Dallas, TX

Cardiovascular Relative Value Update Committee (CV RUC)

Stephen J. Lahey | Farmington, CT

Centers for Medicare & Medicaid Services (CMS)*Arkansas Medicare Contractor Advisory Committee*

Russell H. Wood | Fayetteville, AR

Nicky L. Pipkin (Alternate) | El Dorado, AR

Colorado Medicare Contractor Advisory Committee

Muhammad Aftab | Aurora, CO

Jim Jagers (Alternate) | Aurora, CO

Delaware Medicare Contractor Advisory Committee

Kathleen W. McNicholas | Newark, DE

Ray A. Blackwell (Alternate) | Newark, DE

Georgia Medicare Contractor Advisory Committee

Kirk R. Kanter | Atlanta, GA

Seth D. Force (Alternate) | Atlanta, GA

Louisiana Medicare Contractor Advisory Committee

Mary C. Mancini | Shreveport, LA

Gregory J. Eckholdt (Alternate) | Covington, LA

MACRA Episode-Based Resource Use Measures Clinical Committee

Jeffrey B. Rich | Virginia Beach, VA

Cameron D. Wright | Boston, MA

Maryland Medicare Contractor Advisory Committee

Daniel P. Harley | Glen Arm, MD

John V. Conte (Alternate) | Baltimore, MD

Mississippi Medicare Contractor Advisory Committee

Lawrence L. Creswell | Jackson, MS

Timothy H. Trotter (Alternate) | Fort Smith, MS

New Jersey Medicare Contractor Advisory Committee

Mark J. Krasna | Neptune, NJ

Mark J. Russo (Alternate) | Newark, NJ

New Mexico Medicare Contractor Advisory Committee

Jorge A. Wernly | Albuquerque, NM

Oklahoma Medicare Contractor Advisory Committee

David W. Vanhooser | Enid, OK

Pennsylvania Medicare Contractor Advisory Committee

Walter E. Pae | Hershey, PA

Larry L. Shears (Alternate) | York, PA

Physician Compare Quality Measurement Technical Expert Panel (TEP)

Jeffrey P. Jacobs | St Petersburg, FL

Technical Expert Panel on PQRS#44 Preoperative Beta-Blocker in Patients with Isolated CABG Surgery

Jeffrey P. Jacobs | St Petersburg, FL

Texas Medicare Contractor Advisory Committee

John H. Calhoon | San Antonio, TX

Mitchell J. Magee (Alternate) | Dallas, TX

STS REPRESENTATIVES & CONTACTS

Washington, DC Medicare Contractor Advisory Committee

Jennifer L. Ellis | Washington, DC

Ngozika J. Nwaneri (Alternate) | Lanham, MD

Coalition of Cardiovascular Organizations (CCO)

Michael J. Mack | Dallas, TX

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

Thomas E. MacGillivray | Houston, TX

Congenital Heart Public Health Consortium (CHPHC)

Steering Committee

James S. Tweddell | Cincinnati, OH

Council of Medical Specialty Societies (CMSS)

Richard J. Shemin | Los Angeles, CA

CTSN

Board of Directors

Pavan Atluri | Philadelphia, PA

David T. Cooke | Sacramento, CA

David C. Rice | Houston, TX

Douglas E. Wood | Seattle, WA

Duke Clinical Research Institute (DCRI)

National Medical Device Registries Task Force

Fred H. Edwards | Jacksonville, FL

European Association for Cardio-Thoracic Surgery (EACTS)

Congenital Surgery Database Working Group

Jeffrey P. Jacobs | St Petersburg, FL

Fellowship Council (FC)

Board of Directors

Ralph W. Aye | Seattle, WA

Accreditation Committee

Walter J. Scott | Philadelphia, PA

Jonathan D'Cunha | Pittsburgh, PA

Education/Curriculum Committee

James D. Luketich | Pittsburgh, PA

Heart Rhythm Society (HRS)

2017 HRS/EHRA/APHRS/ECAS/SOLAECE Expert Consensus Statement on Catheter and Surgical Ablation of Atrial Fibrillation Writing Committee

Vinay Badhwar | Morgantown, WV

James R. Edgerton | Dallas, TX

Richard Lee | St Louis, MO

Multisociety 2021 U.S. Bid Multi-Specialty Organizing Committee for World Congress of Pediatric Cardiology and Cardiac Surgery

John E. Mayer Jr | Boston, MA

National Quality Forum (NQF)

Frederick L. Grover (Voting Representative) | Aurora, CO

Board of Directors

David M. Shahian | Boston, MA

Cardiovascular Steering Committee

Joseph C. Cleveland Jr | Aurora, CO

Executive Committee

David M. Shahian | Boston, MA

Measure Applications Partnership Hospital Workgroup

Jeffrey P. Jacobs | St Petersburg, FL

Physician Advisory Panel

David M. Shahian | Boston, MA

Surgery Steering Committee

Frederick L. Grover | Aurora, CO

National Quality Registry Network (NQRN)

David M. Shahian (Co-Chair) | Boston, MA

Patient-Centered Outcomes Research Institute (PCORI)

Advisory Panel on Assessment of Prevention, Diagnosis, and Treatment Options

Felix G. Fernandez | Decatur, GA

Advisory Panel on Improving Healthcare Systems

Leah M. Backhus | Stanford, CA

Physician Consortium for Performance Improvement (PCPI)

Joseph C. Cleveland Jr (Voting Representative) | Aurora, CO

Foundation Board of Directors

David M. Shahian | Boston, MA

Measure Advisory Committee (MAC)

Vinay Badhwar | Morgantown, WV

Physician Consortium for Performance Improvement (PCPI)/Pew Charitable Trust

Data Standards Steering Committee

David W. Wormuth | Jamesville, NY

Quality Alliance Steering Committee (QASC)

Fred H. Edwards | Jacksonville, FL

Society for Advancement of Blood Management (SABM)

Victor A. Ferraris | Lexington, KY

Theolyn N. Price | Colorado Springs, CO

Society for Cardiovascular Angiography and Interventions/American Association for Thoracic Surgery/American College of Cardiology/ The Society of Thoracic Surgeons (SCAI/AATS/ACC/STS)

Writing Committee on Operator & Institutional Requirements for Transcatheter Heart Valve Repair and Replacement

David A. Fullerton (Co-Chair) | Aurora, CO

Joseph E. Bavaria (Vice Chair) | Philadelphia, PA

Gabriel S. Aldea | Seattle, WA

Emile A. Bacha | New York, NY

Michael J. Mack | Dallas, TX

Society of Nuclear Medicine and Molecular Imaging (SNMMI)

Appropriate Use Criteria for Ventilation Perfusion Scan in Pulmonary Embolism Writing Committee

Joseph Rabin | Baltimore, MD

Rakesh C. Arora (Alternate) | Winnipeg, Canada

Surgical Quality Alliance (SQA)

Executive Committee

Fred H. Edwards | Jacksonville, FL

The Society of Thoracic Surgeons/American Association for Thoracic Surgery

ECMO for Acute Respiratory Failure Expert Consensus Writing Group

Jacob T. Gutsche | Narberth, PA

David M. McMullan | Seattle, WA

Nader Moazami | Cleveland, OH

Craig H. Selzman | Salt Lake City, UT

The Society of Thoracic Surgeons/American College of Cardiology TVT Registry

TVT Steering Committee

Frederick L. Grover, Vice Chair | Aurora, CO

Joseph E. Bavaria | Philadelphia, PA

Fred H. Edwards | Jacksonville, FL

Jeffrey P. Jacobs | St Petersburg, FL

David M. Shahian | Boston, MA

Vinod H. Thourani | Atlanta, GA

Thoracic Surgery Directors Association (TSDA)

Mark D. Iannettoni | Greenville, NC

Ara A. Vaporciyan | Houston, TX

The Thoracic Surgery Foundation (TSF)

Board of Directors

John H. Calhoun (President) | San Antonio, TX

Douglas E. Wood (Vice President) | Seattle, WA

Keith S. Naunheim (Secretary) | St Louis, MO

Mark S. Allen (Treasurer) | Rochester, MN

Shanda H. Blackmon | Rochester, MN

Andrea J. Carpenter | San Antonio, TX

David A. Fullerton | Aurora, CO

Robert C. Gorman | Philadelphia, PA

Robert S. D. Higgins | Baltimore, MD

Richard N. Pierson | Baltimore, MD

Joseph F. Sabik III | Cleveland, OH

United Healthcare Services (UHC)

Cardiac Scientific Advisory Board

Fred H. Edwards | Jacksonville, FL

Meeting

1965 - St Louis
 1966 - Denver
 1967 - Kansas City
 1968 - New Orleans
 1969 - San Diego
 1970 - Atlanta
 1971 - Dallas
 1972 - San Francisco
 1973 - Houston
 1974 - Los Angeles
 1975 - Montreal
 1976 - Washington, DC
 1977 - San Francisco
 1978 - Orlando
 1979 - Phoenix
 1980 - Atlanta
 1982 - New Orleans
 1982 - New Orleans
 1983 - San Francisco
 1984 - San Antonio
 1985 - Phoenix
 1986 - Washington, DC
 1987 - Toronto
 1988 - New Orleans
 1989 - Baltimore
 1990 - Chicago**
 1991 - San Francisco
 1992 - Orlando
 1993 - San Antonio
 1994 - New Orleans
 1995 - Palm Springs
 1996 - Orlando
 1997 - San Diego
 1998 - New Orleans
 1999 - San Antonio
 2000 - Fort Lauderdale
 2001 - New Orleans
 2002 - Fort Lauderdale
 2003 - San Diego
 2004 - San Antonio
 2005 - Tampa
 2006 - Chicago

**Deceased*

President

Paul C. Samson*
 Paul C. Samson*
 Thomas H. Burford*
 Donald L. Paulson*
 Lyman A. Brewer III*
 Donald B. Effler*
 Will C. Sealy*
 Robert G. Ellison*
 Benson B. Roe*
 Earle B. Kay*
 Herbert E. Sloan*
 Ralph D. Alley*
 Thomas B. Ferguson*
 F. Henry Ellis Jr*
 Harold V. Liddle*
 Paul C. Adkins*
 Jay L. Ankeney*
 Anthony R. C. Dobell*
 Hassan Najafi
 Harold C. Urschel Jr*
 George J. Magovern Sr*
 Albert Starr
 Charles R. Hatcher Jr
 Hermes C. Grillo*
 George G. Lindesmith*
 W. Gerald Rainer
 W. Gerald Rainer
 Robert W. Jamplis*
 Vincent L. Gott
 Denton A. Cooley*
 Benson R. Wilcox*
 John R. Benfield
 Robert L. Replogle*
 George C. Kaiser
 Richard P. Anderson*
 Nicholas T. Kouchoukos
 Jack M. Matloff*
 Mark B. Orringer
 William A. Baumgartner
 Robert A. Guyton
 Peter C. Pairolero
 Sidney Levitsky

***Special Meeting*

Secretary

Francis X. Byron*
 Francis X. Byron*
 Francis X. Byron*
 Francis X. Byron*
 John N. Briggs*
 Ralph D. Alley*
 Ralph D. Alley*
 Ralph D. Alley*
 Ralph D. Alley*
 Ralph D. Alley*
 Thomas D. Bartley*
 Thomas D. Bartley*
 Thomas D. Bartley*
 Thomas D. Bartley*
 Thomas D. Bartley*
 W. Gerald Rainer
 W. Gerald Rainer
 W. Gerald Rainer
 W. Gerald Rainer
 W. Gerald Rainer
 George C. Kaiser
 George C. Kaiser
 George C. Kaiser
 George C. Kaiser
 George C. Kaiser
 Richard P. Anderson*
 Richard P. Anderson*
 Richard P. Anderson*
 Richard P. Anderson*
 Richard P. Anderson*
 Richard P. Anderson*
 Richard P. Anderson*
 Peter C. Pairolero
 Peter C. Pairolero
 Peter C. Pairolero
 Peter C. Pairolero
 Peter C. Pairolero
 Gordon F. Murray
 Gordon F. Murray
 Gordon F. Murray
 Gordon F. Murray
 Gordon F. Murray
 Douglas E. Wood

Treasurer

Robert G. Ellison*
 Robert G. Ellison*
 Robert G. Ellison*
 Robert G. Ellison*
 Robert G. Ellison*
 Robert G. Ellison*
 Robert G. Ellison*
 Jay L. Ankeney*
 Jay L. Ankeney*
 Jay L. Ankeney*
 Jay L. Ankeney*
 Jay L. Ankeney*
 Harold C. Urschel Jr*
 Harold C. Urschel Jr*
 Harold C. Urschel Jr*
 Harold C. Urschel Jr*
 Harold C. Urschel Jr*
 Harold C. Urschel Jr*
 Benson R. Wilcox*
 Benson R. Wilcox*
 Benson R. Wilcox*
 Benson R. Wilcox*
 Benson R. Wilcox*
 Benson R. Wilcox*
 Benson R. Wilcox*
 Benson R. Wilcox*
 Robert L. Replogle*
 Robert L. Replogle*
 Robert L. Replogle*
 Robert L. Replogle*
 Robert L. Replogle*
 Robert L. Replogle*
 Robert L. Replogle*
 Nicholas T. Kouchoukos
 Nicholas T. Kouchoukos
 Nicholas T. Kouchoukos
 Nicholas T. Kouchoukos
 Nicholas T. Kouchoukos
 Robert A. Guyton
 Robert A. Guyton
 Robert A. Guyton
 Robert A. Guyton
 Robert A. Guyton
 Douglas J. Mathisen
 Douglas J. Mathisen
 Douglas J. Mathisen
 Douglas J. Mathisen

*Deceased

PAST MEETINGS & LEADERSHIP

Meeting

2007 - San Diego
2008 - Fort Lauderdale
2009 - San Francisco
2010 - Fort Lauderdale
2011 - San Diego
2012 - Fort Lauderdale
2013 - Los Angeles
2014 - Orlando
2015 - San Diego
2016 - Phoenix

President

Frederick L. Grover
John E. Mayer Jr
W. Randolph Chitwood Jr
Gordon F. Murray
Douglas J. Mathisen
Michael J. Mack
Jeffrey B. Rich
Douglas E. Wood
David A. Fullerton
Mark S. Allen

Secretary

Douglas E. Wood
Douglas E. Wood
Douglas E. Wood
Douglas E. Wood
David A. Fullerton
David A. Fullerton
David A. Fullerton
Keith S. Naunheim
Keith S. Naunheim
Keith S. Naunheim

Treasurer

Douglas J. Mathisen
Carolyn E. Reed*
Carolyn E. Reed*
Carolyn E. Reed*
Carolyn E. Reed*
Carolyn E. Reed*
Robert S. D. Higgins
Robert S. D. Higgins
Robert S. D. Higgins
Robert S. D. Higgins

**Deceased*

HONORARY MEMBERS

Wilfred G. Bigelow	C. Rollins Hanlon
Mark V. Braimbridge	Dwight C. McGoon
Philippe G. Dartevelle	Donald N. Ross
Charles DuBost	Ake Senning
William W. L. Glenn	Harris B. Shumacker Jr

DISTINGUISHED SERVICE AWARD

The Distinguished Service Award recognizes outstanding contributions to the Society.

1969 – John D. Steele	2005 – Nicholas T. Kouchoukos
1970 – Paul C. Samson	2006 – Gordon F. Murray
1972 – Lyman A. Brewer III	2006 – Mark B. Orringer
1975 – Robert G. Ellison	2007 – Fred H. Edwards
1977 – Ralph D. Alley	2007 – Peter K. Smith
1981 – Herbert E. Sloan	2008 – Betsy Bradley Urschel
1991 – Thomas B. Ferguson	2008 – Jeffrey B. Rich
1998 – W. Gerald Rainer	2010 – John E. Mayer Jr
1998 – Harold C. Urschel Jr	2010 – Frederick L. Grover
1999 – Jack M. Matloff	2011 – L. Henry Edmunds Jr
2000 – Robert L. Replogle	2012 – Robert M. Sade
2001 – Timothy J. Gardner	2013 – Carolyn E. Reed (posthumously)
2001 – Sidney Levitsky	2013 – Michael J. Mack
2001 – George E. Miller	2014 – Douglas J. Mathisen
2002 – Richard G. Sanderson	2015 – William A. Baumgartner
2003 – Benson R. Wilcox	2016 – Robert A. Guyton
2004 – Richard P. Anderson	

EARL BAKKEN SCIENTIFIC ACHIEVEMENT AWARD

This award was established through a grant from Medtronic, Inc, to recognize individuals who have made outstanding scientific contributions that have enhanced the practice of cardiothoracic surgery and quality of life for cardiothoracic surgery patients.

2000 – Gerald D. Buckberg	2008 – William A. Baumgartner
2001 – Rene G. Favaloro	2009 – James J. Cox
2001 – W. Dudley Johnson	2010 – Mark B. Orringer
2002 – Hermes C. Grillo	2011 – Philippe Menasche
2003 – Denton R. Cooley	2012 – Sidney Levitsky
2004 – Richard D. Weisel	2013 – D. Craig Miller
2005 – Randall B. Griep	2014 – G. Alexander Patterson
2006 – Vincent L. Gott	2015 – Irving L. Kron
2007 – Joel D. Cooper	2016 – Frederick L. Grover

PRESIDENT'S AWARD

Selected by the STS President, the recipient of this award is recognized for submitting the best scientific abstract to the Annual Meeting by a lead author who is either a resident or a young investigator who has completed his or her training within the last 5 years.

- | | |
|----------------------------|---------------------------|
| 2011 – Michael Ko | 2015 – Justin M. Schaffer |
| 2012 – Mark J. Russo | 2015 – Kenan W. Yount |
| 2013 – Matthew L. Williams | 2016 – Paul J. Speicher |
| 2014 – Tarek Malas | |

TSDA BENSON R. WILCOX AWARD

This award acknowledges the best scientific abstract submitted by a cardiothoracic surgery resident to the Annual Meeting.

- | | |
|-------------------------|---------------------------|
| 2010 – Mark J. Russo | 2014 – Fenton H. McCarthy |
| 2011 – Harald C. Ott | 2015 – Damien J. LaPar |
| 2012 – Farhood Farjah | 2016 – George Arnaoutakis |
| 2013 – Bryan A. Whitson | |

TSRA SOCRATES AWARD

This award is given to an outstanding faculty member in cardiothoracic surgery in recognition of his or her commitment to resident education and mentorship.

- | | |
|-------------------------------|--|
| 2001 – Mark J. Stout | 2009 – Robert A. Guyton |
| 2002 – Mark B. Orringer | 2010 – William A. Baumgartner |
| 2003 – William A. Baumgartner | 2011 – Lyle D. Joyce |
| 2004 – Bruce W. Lytle | 2012 – George L. Hicks Jr |
| 2005 – Edward D. Verrier | 2013 – Carolyn E. Reed
(posthumously) |
| 2006 – John A. Eleftheriades | 2014 – John A. Kern |
| 2007 – Richard C. Daly | 2015 – Mark D. Iannettoni |
| 2007 – Valerie W. Rusch | 2016 – Yoshifumi Naka |
| 2008 – Patrick M. McCarthy | |

HERBERT E. SLOAN LECTURERS

- | | |
|----------------------------|-------------------------------|
| 1988 – Joel D. Cooper | 1995 – Robert H. Anderson |
| 1992 – Mark V. Braimbridge | 1996 – Philippe G. Dartevelle |

RALPH D. ALLEY LECTURERS

- | | |
|------------------------|-------------------------|
| 1991 – Harry Schwartz | 1999 – Miles F. Shore |
| 1997 – Yasuharu Imai | 2000 – Hans G. Borst |
| 1998 – Vincent L. Gott | 2001 – William R. Brody |

THOMAS B. FERGUSON LECTURERS

2001 – William H. Frist

2002 – Shukri F. Khuri

2003 – David A. Kessler

2004 – Donald J. Palmisano

2005 – James P. Bagian

2006 – David P. Taggart

2007 – William H. Frist

2008 – Elizabeth O. Tiesberg

2009 – Bruce E. Keogh

2010 – Jeffrey B. Rich

2011 – Atul Gawande

2012 – Jeffrey E. Shuren

2013 – Mark B. McClellan

2014 – Bassem Youssef

2015 – Pedro J. del Nido

2016 – Scott E. Parazynski

2017 – Ralph W. Muller

C. WALTON LILLEHEI LECTURERS

2009 – Doris A. Taylor

2010 – William A. Neal

2011 – Joseph P. Vacanti

2012 – Friedrich W. Mohr

2013 – Carolyn M. Clancy

2014 – Shaf H. Keshavjee

2015 – Patrick T. O’Gara

2016 – Gary Taubes

2017 – Samer Nashef

The Thoracic Surgery Foundation

The Thoracic Surgery Foundation is a pivotal force for growth and vitality in cardiothoracic surgery, especially for research and academic career development. TSF was first established in 1988 as a 501(c)(3) not-for-profit charitable foundation with support from the four major thoracic surgery organizations—the American Association for Thoracic Surgery, The Society of Thoracic Surgeons, the Southern Thoracic Surgical Association, and the Western Thoracic Surgical Association. On October 1, 2014, TSF became the charitable arm of STS.

The foundation represents cardiothoracic surgery in the United States, and its research and education initiatives support the entire specialty. The mission of TSF is to foster the development of surgeon scientists in cardiothoracic surgery, increasing knowledge and innovation to benefit patient care.

In 2016, TSF awarded \$551,750 in research grants, \$150,000 in surgical outreach mission grants, and \$17,500 in educational scholarships. A detailed list follows.

In order to continue providing this type of support, TSF depends on your contributions. Today's research will become tomorrow's practice, and today's young surgeons will help drive tomorrow's health care policies. Your donations to TSF have a direct impact on the future of cardiothoracic surgery and the welfare of cardiothoracic surgery patients.

If you would like to make a pledge or receive more information about giving opportunities, visit www.thoracicsurgeryfoundation.org, or contact Priscilla S. Kennedy, TSF Executive Director, at (312) 202-5868 or pkennedy@sts.org.

2016 TSF RESEARCH AWARD RECIPIENTS

TSF/National Institutes of Health (NIH) K Award: Provides support to outstanding clinically trained professionals who are committed to careers in laboratory or field-based research and have the potential to develop into independent investigators. The award total is \$150,000 for a 5-year NIH award period.

Ankit Bharat – Northwestern University
High Carbon Dioxide Impairs Lung Repair

TSF Research Grant: Operational support of original research efforts by cardiothoracic surgeons who have completed their formal training and who are seeking initial support and recognition for their research program. Awards of up to \$40,000 a year for up to 2 years are made annually to support the work of early career cardiothoracic surgeons (within 7 years of first faculty appointment). The STS Research Award designation is given to the highest-ranking TSF research application awarded by TSF based on merit as judged by a rigorous peer-review process.

Matthew J. Bott – Memorial Sloan Kettering Cancer Center
Genomic Correlates of Histopathologic Classification in Lung Adenocarcinoma

Rajeev Dhupar – University of Pittsburgh
Modulating Autophagy in the Neoadjuvant Treatment of Patients with Esophageal Adenocarcinoma

Stephen H. McKellar – University of Utah
*Metabolic Reflux Analysis and Right Ventricular Remodeling**

*STS Research Award

Southern Thoracic Surgical Association (STSA) Research Grant:

Operational support of original research efforts by cardiothoracic surgeons who have completed their formal training and who are seeking initial support and recognition for their research program. Awards of up to \$25,000 for 1 year will be granted to support the work of an early career cardiothoracic surgeon (within 7 years of first faculty appointment at the time of application deadline). STSA membership is not required; however, applicants must meet STSA membership eligibility requirements.

Bradley G. Leshnow – Emory University School of Medicine
The Search for the Optimal Cerebral Protection Strategy During Aortic Arch Replacement: A Pilot Study

Nina Starr Braunwald Research Fellowship: Support of up to \$30,000 per year for up to 2 years for a female resident working in a cardiac surgical clinic or laboratory research program who has not yet completed cardiothoracic surgical training.

Kimberly A. Holst – Mayo Clinic
Optimal Cell Therapy Delivery for Pediatric Right Ventricular Failure: Umbilical Cord Blood-Derived Mononuclear Cells in Pigs

Jennifer L. Philip – University of Wisconsin
Regulation of Cardiac Fibroblast-Mediated Ventricular Remodeling by Beta-Arrestin1

Acelity Wound Care Research Grant: Operational support of up to \$25,000 for research efforts by cardiothoracic surgeons who have completed their formal training and who are seeking support and recognition for their research program related to wound care management.

Mathew Thomas – Mayo Clinic
A Pilot Study to Evaluate the Use of Vacuum-Assisted Dressings in the Management of Chronic Open Chest Wounds

Carolyn E. Reed Traveling Fellowship: Support of \$10,000 for a clinically established female thoracic surgeon to travel to another institution for the purpose of learning a new skill or technology.

Elizabeth A. David – University of California, Davis Medical Center
Mixed-Methods Experimental Design and Data Analysis at the University of Wisconsin

Daniela Molena – Memorial Sloan Kettering Cancer Center
Learn Endoscopic Assessment Tools, Ablation, Resection of Early Stage Tumors, Submucosal Dissection, and Peroral Endoscopic Myotomy Skills at the Oregon Clinic

TSF/Edwards Lifesciences Foundation *Every Heartbeat Matters*

Award: Support of up to \$37,500 for programs that educate, screen, and/or treat underserved populations to reduce the global burden of heart valve disease, or to support other programs that advance health care and address underserved populations.

Ralph Morton Bolman III – University of Vermont
Increasing Access to Reduce the Burden of Rheumatic Heart Disease in Rwanda – Year II

Emily A. Farkas – CardioStart International
Developing a Not-For-Profit Cardiac Surgical Program at Kathmandu University, Dhulikhel

Mark E. Galantowicz – Nationwide Children’s Hospital
Education and Training of Underserved Cardiac Surgeons, Cardiologists, and Intensivists on the Surgical Management of Patients with Congenital Heart Disease (CHD), with an Emphasis on Treating Underserved CHD Patients with Valvular Conditions, eg, Assessing Valve Repair, Replacement, or Catheter-Based Interventions in CHD Patients of All Ages

Frederick L. Grover – University of Colorado
Enhancing Access to Care and Treatment of Cardiovascular Disease in Nepal

V. Mohan Reddy – University of California, San Francisco
Building Capacity for Pediatric Heart Valve Disease in Southeast Asia

Robert D. Pascotto – Heart to Heart
*Surgical Outreach Mission in the Dominican Republic**

*Not funded by Edwards Lifesciences Foundation

2016 TSF EDUCATION AWARD RECIPIENTS

TSF Alley-Sheridan/Leadership Program in Health Policy and Management Scholarships: TSF offers up to 10 partial scholarships of \$2,500 toward the \$5,200 cost to attend the Leadership Program in Health Policy and Management at the Heller School of Public Policy and Management at Brandeis University.

Chadrick E. Denlinger – Medical University of South Carolina

Eric Devaney – University of California, San Diego/Rady Children’s Hospital San Diego

Kristine J. Guleserian – Children’s Medical Center/University of Texas Southwestern Medical Center

Lacy E. Harville III – East Tennessee Cardiovascular Surgery Group

Mohammed Imam – Baptist Health Medical Group

David D. Odell – Northwestern University

Christopher R. Morse – Massachusetts General Hospital

A

Aalaei-Andabili, Seyed Hossein – 40
 Abdelsattar, Zaid – 42
 Accola, Kevin D. – 18, 27, 91
 Acker, Michael A. – 26, 50, 97
 Ad, Niv – 17, 37, 93, 104
 Adachi, Iki – 29
 Ailawadi, Gorav – 26, 38, 47, 50, 93, 100
 Al-Ayoubi, Adnan M. – 36
 Allen, Keith B. – 23, 43, 44
 Allen, Mark S. – 36, 52, 79, 80, 81, 82, 84, 98, 100, 109, 112
 Anderson, Rick – 20
 Antonoff, Mara B. – 53, 55, 84, 92, 100
 Appoo, Jehangir J. – 56, 82
 Arabia, Francisco A. – 20, 24, 54
 Arora, Rakesh C. – 25, 95, 108
 Ashfaq, Awais – 59
 Atay, Scott – 45, 59
 Atluri, Pavan – 34, 47, 54, 97, 106
 Ayub, Adil – 53

B

Backer, Carl L. – 24
 Badhwar, Vinay – 25, 27, 33, 38, 39, 87, 93, 94, 107
 Bakaeen, Faisal G. – 38, 40, 84, 87
 Balch, Charles – 55
 Balkhy, Husam H. – 26
 Bang, Ji Hyun – 35
 Bapat, Vinay K. – 17
 Bartoli, Carlo – 54
 Bashir, Mohamad – 56
 Batirel, Hasan F. – 58
 Bavaria, Joseph E. – 12, 23, 32, 33, 48, 51, 79, 80, 81, 108, 109
 Bechara, Carlos F. – 43
 Beddoes, Richard – 34
 Bell, Richard S. – 28
 Benzaquen, Sadia – 19
 Berry, Mark F. – 20, 29, 32, 36, 82, 83
 Bhagat, Rohun – 53
 Bhat, Aarti – 29
 Bilfinger, Thomas V. – 53
 Biswas Roy, Sreeja – 43
 Blackmon, Shanda H. – 21, 28, 47, 79, 94, 96, 99, 109
 Boeve, Theodore – 35
 Boffa, Daniel J. – 18, 100
 Bolling, Steven F. – 24, 26, 50
 Borger, Michael A. – 18, 27
 Bousamra, Michael – 18
 Boyd, W. Douglas – 17
 Bradley, Scott M. – 29, 99
 Brandt, Mary – 47
 Brink, Johann – 41
 Brinster, Derek R. – 44, 100
 Brown, Lisa M. – 20, 53
 Burg, Jennifer M. – 57
 Burkhoff, Daniel – 19
 Burt, Bryan – 59
 Bush, Errol L. – 42

PROGRAM PARTICIPANTS

C

Caldarone, Christopher A. – 29
Cameron, Duke E. – 23, 60
Caranasos, Thomas G. – 27
Caviezel, Claudio – 42
Ceppa, DuyKhanh P. – 19
Chan, Edward Y. – 42
Chan, Ernest G. – 52
Chang, Andrew C. – 33, 88
Chao, Yin-Kai – 52
Chauhan, Dhaval – 54, 55
Chen, Edward P. – 28, 39, 60, 82, 86
Chen, Frederick Y. – 28
Chen, Jonathan M. – 29, 41, 82, 83
Cheng, Aaron M. – 25, 35, 60, 83, 90, 94
Choi, Jae-Woong – 49
Ciriaco, Paola – 59
Cobanoglu, Adnan – 43
Colditz, Graham A. – 45, 46, 99
Colli, Andrea – 50
Colligan, Michael – 30
Concistrè, Giovanni – 57
Conte, John V. – 25, 90, 92, 105
Cooke, David T. – 42, 60, 82, 84, 104, 106
Crabtree, Traves P. – 47, 83, 100, 103

D

D'Amico, Thomas A. – 30, 81
D'Ovidio, Frank – 58
Damiano, Ralph J. – 33
Daneshmand, Mani A. – 60
David, Elizabeth A. – 28, 53, 59, 86, 118
David, Tirone E. – 38
Davis, Robert Duane – 43
De Paulis, Ruggero – 51
Dearani, Joseph A. – 23, 35, 50, 79, 87, 95, 96, 102
DeCamp, Malcolm M. – 58, 104
Denault, Andre – 25
Desai, Nimesh – 19, 44, 51, 56, 83, 88, 94
DeSimone, Joseph – 40
Detterbeck, Frank C. – 58
Dhupar, Rajeev – 34, 117
DiMaio, J. Michael – 55, 89, 91
Do, Nhue – 33
Donahoe, Laura – 45
Drake, Daniel H. – 25
Dunning, Joel – 19, 28, 87
Dunnington, Gansevoort H. – 27

E

Eagleton, Matthew J. – 19
Edwards, Janet P. – 58
Edwards, Melanie A. – 29, 45, 87, 88, 94, 104
El Khoury, Gebrine – 18
Emani, Sitaram M. – 29

F

Farjah, Farhood – 53, 82, 87, 88, 100, 115
 Farviar, Robert S. – 47
 Favalaro, Roberto R. – 57
 Fazzalari, Frank L. – 24, 93, 94, 96
 Fenton, Kathleen N. – 43
 Ferdinand, Francis D. – 48
 Ferguson, T. Bruce – 32
 Fernandez, Felix G. – 47, 87, 88, 89, 100, 107
 Filardo, Giovanni – 33
 Firstenberg, Michael S. – 25, 54, 95
 Fishman, Neil O. – 23
 Fullerton, David A. – 25, 37, 38, 43, 80, 81, 84, 89, 108, 109, 112, 113

G

Gabbe, Steven – 55
 Galetta, Domenico – 53
 Galloway, Aubrey C., Jr – 17, 93
 Gangadharan, Sidharta P. – 28, 60, 86
 Gangemi, James J. – 44
 Gaynor, J. William – 24, 47
 Gebitekin, Cengiz – 45
 Geiger, James – 21
 Geirsson, Arnar – 56
 Ghanta, Ravi K. – 28
 Gharagozloo, Farid – 36
 Giambruno, Vincenzo – 41
 Girardi, Leonard N. – 19
 Gleason, Thomas G. – 27, 39, 40, 82
 Goltsov, Alexei – 34
 Gottlieb, Erin A. – 50
 Grau, Juan – 47
 Gray DeAngelis, Kathryn – 30, 94
 Gregoric, Igor – 27
 Grogan, Eric L. – 20
 Grondin, Sean C. – 37, 79, 93, 96
 Guitron, Julian – 20
 Guleserian, Kristine J. – 24, 88, 95, 101, 119
 Guy, T. Sloane – 17, 44, 83, 89

H

Habib, Robert – 47
 Haft, Jonathan W. – 20, 25, 42, 54
 Hage, Fadi – 40
 Halkos, Michael E. – 41, 47, 90
 Hammel, James M. – 32
 Han, Kook Nam – 45
 Hattori, Aritoshi – 42
 Heaton, Michael N. – 24
 Heiden, Brendan – 34
 Henley, Paul – 43
 Hermsen, Joshua L. – 23, 96
 Hoashi, Takaya – 57
 Hoffman, George – 51
 Hofstetter, Wayne L. – 42
 Holst, Kimberly A. – 41, 118
 Howington, John A. – 29, 90
 Hraska, Viktor – 41
 Huebler, Michael – 45
 Hughes, G. Chad – 27, 51, 93, 101

PROGRAM PARTICIPANTS

Hurwitz, Jodie – 37
Husain, S. Adil – 60, 95, 101
Hyun, Kwanyong – 59

I

Idrees, Jay J. – 40
Iquille, Jules – 53
Iribarne, Alexander – 40
Irons, Mallory L. – 51

J

Jacobs, Jeffrey P. – 38, 39, 47, 87, 88, 89, 90, 94, 101, 103, 105, 106, 107, 109
Jacobs, Marshall L. – 47, 88
Jaquiss, Robert B. – 23, 96, 100
Jaroszewski, Dawn E. – 60
Jasinski, Marek – 57
Jeevanandam, Valluvan – 25, 27
Johnson, Jeffrey C. – 47
Joyce, David L. – 20, 56

K

Kakuta, Takashi – 58
Kalfa, David – 50
Kansy, Andrzej – 50
Kappetein, A. Pieter – 23, 43, 79, 88, 90, 92, 101
Kar, Saibal – 18
Kari, Fabian – 34
Kasmi, Leila – 35
Katlic, Mark R. – 47, 88, 103
Kavarana, Minoo N. – 36
Keeling, W. Brent – 27, 40
Kesler, Kenneth A. – 30
Khoynzhad, Ali – 18, 60, 83, 103
Kidane, Biniam – 52
Kim, Anthony W. – 36, 83
Kim, Peter Y. – 19
Kindel, Steven J. – 24
Klatt, Maryanna – 55
Kneuertz, Peter – 59
Knight, Ariel – 52
Kohman, Leslie J. – 36, 47
Kopson, Mark – 24
Kormos, Robert L. – 54, 82, 84, 85, 93
Kotani, Yasuhiro – 45
Koutlas, Theodore C. – 47
Krabatsch, Thomas – 44
Krantz, Joshua – 36
Krantz, Seth B. – 42
Kreisel, Daniel – 42
Krishnamoorthy, Bhuvaneswari – 49
Kumar Baral, Ravi – 33
Kuzdzal, Jaroslaw – 58

L

Lamounier, Fernando N. – 20
Langer, Nathaniel B. – 50
Laschinger, John C. – 21, 85
Lawton, Jennifer S. – 34, 87, 93, 99

Lee, Jason T. – 43
 Lee, Melissa – 35
 Lee, Richard – 17, 20, 32, 36, 49, 82, 83, 91, 98, 107
 LeMaire, Scott A. – 56, 101
 Leshnower, Bradley G. – 44, 51, 94, 118
 Levy, Paul S. – 24, 96
 Ley, Sondra J. – 28, 30, 94
 Liberman, Moishe – 36
 Lijkendijk, Marike – 59
 Liou, Douglas Z. – 52
 Liu, Hanning – 49
 Lobdell, Kevin W. – 25, 89
 Loforte, Antonio – 55
 Lonchyna, Vassyl A. – 25, 90, 95
 Luketich, James D. – 18, 20, 83, 99, 106

M

MacGillivray, Thomas E. – 48, 57, 79, 80, 99, 102, 106
 Mack, Michael J. – 21, 37, 57, 81, 87, 102, 104, 106, 108, 112, 114
 Mahmood, Feroze – 26, 99
 Maiga, Amelia – 42
 Makkar, Raj – 21
 Maltais, Simon – 27
 Maniar, Hersh S. – 27
 Manoukian, Steven V. – 24
 Marshall, M. Blair – 47, 58, 89, 100
 Martin, Billie-Jean – 58
 Martin, Jeremiah T. – 18, 20
 Martin, Linda W. – 47, 92, 104
 Mascio, Christopher E. – 29, 35, 47, 83
 Mathisen, Douglas J. – 36, 80, 84, 90, 98, 99, 111, 112, 113, 114
 McCarthy, Fenton H. – 56, 84, 115
 McCarthy, Patrick M. – 21, 33, 115
 McGee, Edwin C. – 48
 McKenna, Robert J. – 30
 McKenzie, Emmett D. – 33
 McMullan, David M. – 48, 85, 95, 108
 Mehran, Roxana – 37, 38
 Merritt, Robert E. – 29
 Mery, Carlos M. – 50, 57
 Meyers, Bryan F. – 30, 79, 84, 87, 97, 102
 Meyerson, Shari L. – 19, 29, 45, 52, 60
 Meza, James – 32
 Milano, Carmelo A. – 54, 97
 Miller, Daniel L. – 42, 60
 Mitchell, John D. – 81, 103
 Mitchell, Michael E. – 29
 Moazami, Nader – 19, 101, 108
 Moffatt-Bruce, Susan D. – 37, 55, 87, 89, 91, 101
 Mokadam, Nahush A. – 52, 60, 83, 84, 101
 Molena, Daniela – 18, 52, 118
 Moon, Marc R. – 38, 56
 Moront, Michael G. – 24, 80, 96
 Morse, Christopher R. – 52, 82, 85, 119
 Morton, Aaron – 28
 Mosca, Ralph S. – 41
 Muller, Ralph W. – 13, 48, 116
 Murphy, Michael P. – 44
 Musani, Ali I. – 19

PROGRAM PARTICIPANTS

N

Najam, Farzad – 35
Nakano, Toshihide – 57
Nandi, Deipanjan – 41
Nashef, Samer – 14, 48, 116
Nason, Katie S. – 33
Naunheim, Keith S. – 32, 36, 48, 79, 80, 84, 87, 109, 113
Navia, Jose Luis – 27
Nazari, Stefano – 19, 21
Nelson, Jennifer S. – 23, 93, 96
Nguyen, Tom C. – 37
Nicoara, Alina – 25, 26
Nyman, Charles B. – 26

O

O’Gara, Patrick T. – 37, 38, 116
Ohye, Richard G. – 23
Oliveira, Ricardo L. – 45
Onaitis, Mark – 32

P

Pacini, Davide – 51
Pagani, Francis D. – 54, 88, 93, 97, 104
Pal, Jay D. – 54, 97
Pan, Xiangbin – 50
Park, Bernard J. – 30, 87, 96
Park, Chun Soo – 41, 58
Patel, Amit N. – 44
Patel, Himanshu J. – 18, 83
Patel, Prakash – 30
Patterson, G. Alexander – 45, 79, 99, 114
Petricevic, Mate – 49
Pham, Duc T. – 19
Pizarro, Christian – 45, 50, 82
Pourmoghadam, Kamal K. – 50
Prager, Richard L. – 12, 23, 33, 40, 79, 80, 90, 98, 99
Predina, Jarrod – 34
Preston, Randy – 18
Preventza, Ourania A. – 48, 60, 91
Price, Theolyn – 55, 89, 108

R

Raad, Wissam – 18
Rabin, Joseph – 25, 95, 108
Ragalie, William – 44
Rahmanian, Parwis B. – 49
Rame, J. Eduardo – 54
Ramlawi, Basel – 60
Randhawa, Simran – 53
Rankin, J. Scott – 32
Ranzenbach, Edward A. – 30, 94
Ravichandren, Kirthi – 49
Reardon, Michael J. – 17
Reece, T. Brett – 27, 56, 82, 85, 93
Reed, Michael F. – 19, 83
Rich, Jeffrey B. – 49, 81, 90, 92, 105, 112, 114, 116
Robinson, Aaron – 24
Robinson, Clifford – 47

Rodriguez, Evelio – 26, 60
 Romano, Matthew A. – 60, 83
 Roselli, Eric E. – 18, 27, 85, 103
 Rosengart, Todd K. – 44, 87, 91, 92
 Rueckert, Jens C. – 30
 Ruel, Marc – 26, 38, 101
 Ruffini, Enrico – 58
 Rusch, Valerie W. – 29, 115

S

Sabik, Joseph F. – 26, 32, 37, 56, 79, 80, 109
 Sade, Robert M. – 36, 100, 114
 Sakamoto, Takahiko – 35
 Santana-Rodríguez, Norberto – 34
 Sarikouch, Samir – 18
 Sarin, Eric L. – 60, 91, 94
 Sarkaria, Inderpal – 47
 Schieman, Colin – 37
 Schindler, John T. – 47
 Schmitt, Benjamin – 34
 Scholl, Frank G. – 23, 96
 Seely, Andrew J. – 37
 Selvasandran, Kaviyanka – 34
 Setty, Shaun P. – 57
 Shah, Asad A. – 28, 84
 Shah, Ashish – 54
 Shake, Jay G. – 25, 35, 95
 Shann, Kenneth – 23
 Shears, Larry – 23
 Sheridan, Brett C. – 49, 82
 Shrager, Joseph B. – 29, 30, 34, 59, 82, 83, 88, 101
 Shrestha, Malakh L. – 40
 Slaughter, Mark S. – 25, 54, 100
 Smalling, Richard W. – 37
 Smith, Jason W. – 54
 Smith, Robert L. – 17, 26, 60
 Soltesz, Edward G. – 33, 60
 Sotile, Wayne – 55
 Sousa Uva, Miguel – 23
 Speir, Alan M. – 24, 41, 48, 88, 90, 91, 98
 Sterbling, Helene – 42
 Sternbach, Joel M. – 55
 Stirling, Madeleine – 36
 Strueber, Martin – 19
 Stulak, John M. – 19, 83
 Sultan, Ibrahim – 39, 44, 51
 Sundt, Thoralf M. – 23
 Suri, Rakesh M. – 17, 83, 88
 Svensson, Lars G. – 40, 90
 Swanson, Scott J. – 30
 Szeto, Wilson Y. – 26, 27, 43, 56, 80, 82, 85, 102

T

Tanaka, Akiko – 56
 Tanaka, Daizo – 35
 Tang, Gilbert H. – 26
 Tedford, Ryan J. – 25
 Tekwani, Chandra S. – 20
 Thomas, Mathew – 60, 83, 118

PROGRAM PARTICIPANTS

Thompson, Jess L. – 36, 91
Thornblade, Lucas – 52
Thourani, Vinod H. – 24, 25, 27, 37, 38, 57, 79, 82, 85, 94, 101, 109
Timmerman, Robert – 20
Tong, Betty C. – 20, 60, 83
Trezzi, Matteo – 41
Tseng, Elaine E. – 40, 93
Turek, Joseph W. – 57
Turnbull, Jessica – 36
Turrentine, Mark W. – 44
Tweddell, James S. – 57, 82, 93, 95, 96, 102, 106

U

Uchida, Wataru – 34
Umana, Juan P. – 43, 92
Uriel, Nir – 25, 54

V

Vallabhajosyula, Prashanth – 60, 90
Van Arsdell, Glen S. – 29, 83, 95, 101
Van Raemdonck, Dirk E. – 58, 96
Vaporciyan, Ara A. – 28, 52, 55, 82, 84, 86, 109
Vardas, Panos N. – 55
Varghese, Thomas K. – 20, 42, 82, 83, 84, 101
Vergnat, Mathieu – 50
Verrier, Edward D. – 52, 84, 115
Vida, Vladimiro – 41
Voulaz, Emanuele – 59

W

Waddell, Thomas K. – 43, 96
Waller, David – 58
Walther, Thomas – 27, 101
Wang, Juzheng – 45
Wehman, Brody P. – 49
Wei, Benjamin – 18
Weksler, Benny – 52
Welp, Henryk A. – 35
White, Rodney – 18
Whitlock, John – 28
Whitman, Glenn J. R. – 25, 93, 95
Whitson, Bryan A. – 54, 97, 115
Whyte, Richard I. – 24, 81, 91, 96, 104
Williams, Mathew R. – 17, 37, 83
Williams, Valerie A. – 47
Wolf, Andrea S. – 53

Y

Yang, Bo – 60
Yang, Stephen C. – 52, 84
Yarboro, Leora T. – 27, 86
Yendamuri, Sai – 42
Yuri, Koichi – 56

Z

Zervos, Michael – 19
Zilla, Peter – 43

BioSurgery Products

BARD

DAVOL INC.



PROGEL™
Pleural Air Leak Sealant



ARISTA™ AH
Absorbable Hemostatic Particles



AVITENE™
Microfibrillar Collagen Hemostat

Visit Us At
BOOTH 235

**WELCOME
RECEPTION**

Exhibit Hall, Booth 235

Sunday January 22nd
4:30 – 6:30 p.m.



PROGEL™
Pleural Air Leak Sealant

Intended Use / Indications For Use

PROGEL™ Pleural Air Leak Sealant (PROGEL™ PALS) is a single use device intended for application to visceral pleura after standard visceral pleural closure with, for example, sutures or staples, of visible air leaks incurred during resection of lung parenchyma.

Contraindications

- Do not use PROGEL™ PALS in patients who have a history of an allergic reaction to Human Serum Albumin or other device components.
- Do not use PROGEL™ PALS in patients who may have insufficient renal capacity for clearance of the PROGEL™ PALS polyethylene glycol load.

- Do not apply PROGEL™ PALS on open or closed defects of main stem or lobar bronchi due to a possible increase in the incidence of broncho-pleural fistulae, including patients undergoing pneumonectomy, any sleeve resection or bronchoplasty.

Warnings

Do not apply PROGEL™ PALS on oxidized regenerated cellulose, absorbable gelatin sponges or any other surface other than visceral pleura as adherence and intended outcome may be compromised.

Please consult product labels and inserts for any precautions and adverse events.

See full product labeling for complete Instructions for Use and important safety information.

Bard, Davol, Arista, Avitene, and Progel are trademarks and/or registered trademarks of C. R. Bard, Inc.

© Copyright 2016, C. R. Bard, Inc. All Rights Reserved.

Davol Inc. • Subsidiary of C. R. Bard, Inc. • 100 Crossings Boulevard • Warwick, RI 02886 • USA 1.800.556.6275
www.davol.com • Medical Services & Support 1.800.562.0027

DAV/ARS1/1115/0076(1)

BARD

DAVOL INC.

Visit **BARD** at **STS 2017**

BOOTH 235

Complimentary bottled
water and popcorn
available throughout
the meeting

BARD

DAVOL INC.

ENTER DAILY TO WIN!



Thoracic
Medical
Model



PROGEL™
Pleural Air Leak Sealant

Visit BARD at STS 2017
Booth 235

Please write legibly. All fields required.

Name

Hospital

City

State

Zip Code

Email

NPI / License



**The only sealant
FDA approved to
treat air leaks**
in open thoracotomy,
Video-Assisted
and Robotic-Assisted
Thoracic Surgery.¹

WELCOME RECEPTION

Exhibit Hall, Booth 235

Sunday January 22nd
4:30 – 6:30 p.m.

ENTER DAILY TO WIN!

a thoracic
medical
model.



**Entry form on
inside cover**

Booth 235

A winner each day!

To Enter:

1. Fill out this entry form & detach from program book.
2. Visit **Booth 235** and submit your entry form to a BARD representative.

Drawing Rules:

1. Must visit **Booth 235** to enter.
2. Winners will be drawn daily.
3. Winners will be contacted via email.

1. For complete information regarding the use of PROGEL™ Pleural Air Leak Sealant in minimally invasive lung resection surgery please refer to the Instructions for Use included with the product or found on our website at www.davol.com. M-00368. Davol Inc. Clinical Data on File.

BARD

DAVOL INC.