I invite you to join me and thousands of our colleagues from around the world at the STS 54th Annual Meeting, January 27–31, 2018, in Fort Lauderdale, Florida.

The STS Annual Meeting is the epicenter of the latest technology, research, and clinical practice in cardiothoracic surgery. This year’s meeting will have new formats, lively discussions, and interactions in every discipline of our specialty. It also will fit all learning styles. Educational sessions will mix debates and surgical videos with the very best scientific research abstracts.

On Sunday, three “How To” sessions will feature video presentations on common cardiothoracic surgical procedures, with speakers offering unique insights. The Opening Reception will highlight approximately 130 exhibiting companies demonstrating their latest products and services. Following the Opening Reception, I invite, welcome, and encourage ALL to attend my President’s Reception at the Marriott Harbor Beach Resort & Spa.

After my Presidential Address on Monday, an important new session will tackle the topic of diversity and inclusion in cardiothoracic surgery. Speakers will discuss how a diverse cardiothoracic surgery workforce can improve patient outcomes by increasing cultural competency and mitigating unconscious provider bias.

On Tuesday, don’t miss the exciting keynotes; details are forthcoming. And don’t forget to register for the popular hands-on STS University courses on Wednesday; new courses have been added on peroral endoscopic myotomy and minimally invasive aortic and mitral valve surgery.

Access to the STS 54th Annual Meeting Online will once again be included with Annual Meeting registration—a bonus that will let you review the outstanding educational content from your home or office throughout the next year. See page 41 for more details.

There’s so much more to the 54th Annual Meeting, and in this Advance Program, you’ll find a program outline, course descriptions, and agendas to help you plan your schedule. You’ll also find registration instructions and information on travel and housing accommodations.

Please make plans now to join your colleagues in cardiothoracic surgery this January. You can register at www.sts.org/annualmeeting.

I look forward to seeing you in Fort Lauderdale!

Richard L. Prager, MD
President, The Society of Thoracic Surgeons

WHAT’S NEW

- The President’s Reception on Sunday evening will be open to all meeting attendees; there will not be an STS Social Event on Monday.
- Surgical videos will be included in several parallel sessions, rather than in designated surgical motion picture matinees.
- New sessions will explore the role of diversity and inclusion in the cardiothoracic surgery workforce, how physician documentation drives reimbursement, and the experience with left ventricular assist device therapy around the globe.
- Two new STS University courses on peroral endoscopic myotomy and minimally invasive aortic and mitral valve surgery will be offered.

Don’t Miss Tech-Con
Prior to the Annual Meeting, STS/AATS Tech-Con will focus on new devices and procedures that have yet to be FDA-approved but could be available within 1-3 years from the time of presentation. A highlight of the day will be the Shark Tank session, in which entrepreneurs will pitch their innovative cardiothoracic surgery products. Separate registration is required. See page 6 for details.

Register for the STS/CTSNet Career Fair
Take advantage of the opportunity to meet face-to-face with top employers at the STS/CTSNet Career Fair, held during the STS 54th Annual Meeting. Maximize your exposure by posting your CV to the candidate database prior to the meeting. You can find more information at sts.org/careerfair.

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Richard L. Prager, MD
President, The Society of Thoracic Surgeons
The Society of Thoracic Surgeons Education Disclosure Policy

As a sponsor of continuing medical education accredited by the Accreditation Council for Continuing Medical Education (ACCME), The Society of Thoracic Surgeons requires that any individual who is in a position to control the content of an educational activity must disclose all relationships with commercial interests (including known relationships of his or her immediate family, department, and partners). The ACCME defines a commercial interest as “any entity producing, marketing, reselling, or distributing health care goods or services consumed by, or used on, patients. The ACCME does not consider providers of clinical service directly to patients to be commercial interests.” The question of whether a disclosed conflict situation could represent undue influence on the educational activity by a commercial interest or whether the disclosed information is sufficient to consider an abstract, presentation, or other educational enduring material to represent potentially biased information must be resolved prior to an individual's involvement in STS educational programming.

Required disclosures include (1) a financial interest of any amount (e.g., through ownership of stock, stock options, or bonds) (2) the receipt of any amount of cash, goods or services within the current 12-month period (e.g., through research grants, employment, consulting fees, royalties, travel, or gifts) or (3) a nonremunerative position of influence (e.g., as officer, director, trustee or public spokesperson). EXCLUDED from this disclosure requirement are blind trusts or other passive investments such as mutual funds. In the case of a financial or other relationship disclosure, the company, product/service, and specific nature of the relationship must be noted. Disclosure is mandatory for any person involved in the planning, management, presentation, and/or evaluation of STS educational activities.

Failure to disclose all relationships with commercial interests disqualifies the individual from being a planning committee member, a teacher, or an author of educational materials, and this individual cannot have any responsibility for the development, management, presentation, or evaluation of STS educational activities. This requirement is intended neither to imply any impropriety of such relationships nor to prejudice any individual planner, presenter or author. It is merely to identify such relationships through full disclosure, and to allow STS to assess and resolve potential influences on the educational activity prior to the planning and implementation of an educational activity. If no relationships with commercial interests exist, the individual must indicate this on the disclosure form.

Additionally, the fact that the presentation, paper, or other educational product describes (a) the use of a device, product, or drug that is not FDA approved or (b) an off-label use of an approved device, product, or drug must also be disclosed. This requirement has been adopted in response to FDA policy and case law involving medical societies, and is not intended to prohibit or inhibit independent presentation or discussion regarding the uses of devices, products, and drugs as described in (a) or (b) above.

For live presentations, all disclosures must be stated orally and on a slide at the beginning of the presentation and will be noted in published material related to the activity. Slides, handouts, and other materials utilized as part of an educational activity cannot contain any advertising, trade names or a product group message. Speakers are required to disclose that they have nothing to disclose if this is the case.

Amended by the STS Executive Committee: April 11, 2012
Program at a Glance

Friday, January 26, 2018
3:00 PM – 6:00 PM
Registration

Saturday, January 27, 2018
6:30 AM – 6:00 PM
Registration
7:00 AM – 6:30 PM
Tech-Con Exhibits
7:00 AM – 8:00 AM
BREAKFAST—Visit Tech-Con Exhibits
8:00 AM – 9:30 AM
Tech-Con Adult Cardiac Track I: Innovations in Aortic Valve and Aortic Aneurysm Management
Tech-Con General Thoracic Track I: Emerging and/or Game-Changing Technologies in the Management of Lung Cancer
9:30 AM – 10:15 AM
BREAK—Visit Tech-Con Exhibits
10:15 AM – 12:00 PM
Tech-Con Adult Cardiac Track II: Cutting-Edge Surgery for Heart Failure and Coronary Artery Disease
Tech-Con General Thoracic Track II: Emerging and/or Game-Changing Technologies in the Management of Esophageal Diseases
12:00 PM – 1:00 PM
LUNCH—Visit Tech-Con Exhibits
1:00 PM – 2:30 PM
Tech-Con Adult Cardiac Track III: Contemporary and Future Mitral Valve and Atrial Fibrillation Practice
Tech-Con General Thoracic Track III: Emerging and/or Game-Changing Minimally Invasive Surgery and Other Technologies
2:30 PM – 3:00 PM
BREAK—Visit Tech-Con Exhibits
3:00 PM – 5:00 PM
Tech-Con Joint Session: Robotic Cardiothoracic Innovations and “Shark Tank”—Rapid-Fire Pitches of Revolutionary Technology
5:00 PM – 6:30 PM
Tech-Con Reception

Sunday, January 28, 2018
7:00 AM – 8:30 PM
Registration
8:00 AM – 12:00 PM
Adult Congenital Heart Disease Symposium: Surgical Management of Hypertrophic Cardiomyopathy and Anomalous Aortic Origin of a Coronary Artery in Children and Adults
Practice Management Summit
STS/AATS Critical Care Symposium: When Things Go Wrong in the CTICU and What to Do About It
CHEST ® STS: Advanced Bronchoscopy and Surgical Airway Symposium
SCA ® STS: Integrating Perioperative Echocardiography Into Cardiac Surgical Clinical Decision Making
8:00 AM – 4:00 PM
Multidisciplinary Innovations in Cardiothoracic Patient Care
10:00 AM – 4:30 PM
“My Tube” Adult Cardiac How-To Video Session
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
How-To Video Session: Technical Tips to Avoid Pitfalls and Simplify Congenital and Pediatric Cardiac Surgical Procedures
How-To Video Session: Tips and Tricks to Maximize Efficiency in Minimally Invasive General Thoracic Surgery
2:00 PM – 6:30 PM
Scientific Posters
4:30 PM – 6:30 PM
Opening Reception in STS Exhibit Hall
7:00 PM – 10:00 PM
President’s Reception

Monday, January 29, 2018
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
7:15 AM – 8:15 AM
J. Maxwell Chamberlain Memorial Papers
8:15 AM – 9:00 AM
Abstract Presentations
9:00 AM – 9:40 AM
BREAK—Visit Exhibits and Scientific Posters
9:40 AM – 9:50 AM
Introduction of the President: Keith S. Naunheim
9:50 AM – 10:50 AM
Presidential Address: Richard L. Prager
10:50 AM – 11:30 AM
BREAK—Visit Exhibits and Scientific Posters
Program at a Glance

11:30 AM – 12:30 PM
Adult Cardiac: Arrhythmia/Atrial Fibrillation
Basic Science Research: Adult Cardiac
Basic Science Research: General Thoracic
Congenital: Adult Congenital Critical Care
NEW! Diversity and Inclusion in Cardiothoracic Surgery: What’s In It for Me?
General Thoracic: New Technology
STS/CATS/CSCS: Difficult Decisions in Thoracic Surgery—Advice From Canadian and American Experts

12:30 PM – 1:30 PM
BREAK—Visit Exhibits and Scientific Posters

1:15 PM – 5:15 PM
Clinical Scenarios: Cardiologists and Surgeons Working Together
Adult Cardiac: Aorta I
Adult Cardiac: Ischemic Congenital: Pediatric Congenital I
General Thoracic: Lung Cancer I
General Thoracic: Lung Transplantation
International Symposium: Confronting Infectious Diseases in Young Adults Undergoing Cardiac Surgery
SVS @ STS: Sharing Common Ground for Cardiovascular Problems

3:30 PM – 4:15 PM
BREAK—Visit Exhibits and Scientific Posters

4:15 PM – 5:15 PM
Adult Cardiac: VAD Transplant/ECMO
Ethics Debate: Neighboring Help or Itinerant Surgery?
Research Using the STS National Database
STS Key Contacts: Advocates for Cardiothoracic Surgery

The Annals Academy: Preparation and Interpretation of National Database Research
NEW! The Importance of Physician Documentation in Reimbursement
Women in Thoracic Surgery: How to Successfully Implement Surgical Innovations and New Technologies Into Practice
5:15 PM – 6:30 PM
Scientific Posters and Wine
5:30 PM – 6:30 PM
Business Meeting (STS Members Only)

Tuesday, January 30, 2018

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
Meet the Experts
7:30 AM – 8:30 AM
Health Policy Forum
9:00 AM – 10:00 AM
Thomas B. Ferguson Lecture
10:00 AM – 10:45 AM
BREAK—Visit Exhibits and Scientific Posters
10:45 AM – 11:00 AM
Award Presentations
11:00 AM – 12:00 PM
C. Walton Lillehei Lecture
12:00 PM – 1:00 PM
BREAK—Visit Exhibits and Scientific Posters
12:00 PM – 1:00 PM
Residents Luncheon
1:00 PM – 3:00 PM
Adult Cardiac: General
Adult Cardiac: Mitral and Tricuspid Valves
Congenital: Pediatric Congenital II
EACTS @ STS: Bicuspid Aortic Valve Repair With Aortic Valve Insufficiency and Proximal Aortic Aneurysm Repair
NEW! STS/ISHLT Joint Symposium: LVAD Therapy in 2018—Worldwide Perspectives
General Thoracic: Lung Cancer II
General Thoracic: Mediastinal/Pulmonary

3:30 PM – 4:30 PM
Cardiothoracic Surgical Education
3:30 PM – 5:30 PM
Adult Cardiac: Aorta II
Adult Cardiac: Aortic Valve/Novel Technologies
Advanced Therapies for End-Stage Cardiopulmonary Disease
Congenital: Pediatric Congenital III
ESTS @ STS: Controversial Issues in General Thoracic Surgery—Perspectives From Europe and North America
General Thoracic: Esophageal
4:30 PM – 5:30 PM
Quality Improvement

Wednesday, January 31, 2018

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)
STS/AATS Tech-Con 2018

Saturday JANUARY 27, 2018

6:30 AM – 6:00 PM
Registration

7:00 AM – 6:30 PM
Tech-Con Exhibits

7:00 AM – 8:00 AM
BREAKFAST — Visit Tech-Con Exhibits

8:00 AM – 9:30 AM
Adult Cardiac Track I: Innovations in Aortic Valve and Aortic Aneurysm Management
MODERATORS: Edward P. Chen, Atlanta, GA, and Nimesh D. Desai, Philadelphia, PA

8:00 AM
Overview: Current Challenges in Aortic and Endovascular Surgery
Nimesh Desai, Philadelphia, PA

8:04 AM
A Practical Approach to Aortic Valve Repair
Emmanuel Lansac, Paris, France

8:12 AM
Sutureless Aortic Valve Replacement: Prosthesis Selection and Challenging Scenarios
Malak Shrestha, Hanover, Germany*

8:20 AM
Submitted Presentation: Bioprosthetic Valve Fracture to Facilitate Valve-in-Valve Transcatheter Aortic Valve Replacement (TAVR)
Keith B. Allen, Kansas City, MO

8:28 AM
Navigating Complex TAVR Scenarios: Managing Left Ventricular Outflow Tract Calcium, Isolated Aortic Insufficiency, Bicuspid Valve, and Others
Arash Salemi, New York, NY

8:36 AM
Panel Discussion

8:47 AM
Submitted Presentation: Advanced Aortic Root Surgery Techniques via Right Minithoracotomy
Joseph Lamelas, Miami Beach, FL

8:55 AM
Endovascular Repair in the Ascending Aorta: Is Endo Bentall a Reality?
Ali Khoynezhad, Los Angeles, CA

9:03 AM
Frozen Elephant Trunk and Evolving Arch Surgery Techniques
Eric E. Roselli, Cleveland, OH

9:11 AM
Branched Endografting Techniques in the Aortic Arch
Himanshu J. Patel, Ann Arbor, MI

9:19 AM
Panel Discussion

8:00 AM – 9:30 AM
General Thoracic Track I: Emerging and/or Game-Changing Technologies in the Management of Lung Cancer
MODERATORS: Lisa M. Brown, Sacramento, CA, and Brendon M. Stiles, New York, NY

8:00 AM
Submitted Presentation: Electromagnetic Navigational Video-Assisted Thoracoscopic Surgery (N-VATS) for Precision-Guided Resection of Intrathoracic Lesions
Wissam Raad, New York, NY

8:12 AM
Submitted Presentation: 3D Computed Tomography Reconstruction and Mix Reality for Sublobar Resection
Xinghua Cheng, Shanghai, China

8:24 AM
Submitted Presentation: Robotic Bronchoscopy
Kazuhiro Yasufuku, Toronto, Canada

8:36 AM
Use of Ultrasound Imaging for Localizing Nodules Robotically
John F. Lazar, Mechanicsburg, PA

8:48 AM
Radiofrequency Ablation of Lung Tumors
Katie S. Nason, Pittsburgh, PA

9:00 AM
Cryoablation: Update on SOLSTICE Study — Is It Applicable to Primary Lung Cancer?
Matthew R. Callstrom, Rochester, MN

9:12 AM
Energy Sources for Pulmonary Resection
Moishe A. Liberman, Montreal, Canada

9:30 AM – 10:15 AM
BREAK — Visit Tech-Con Exhibits

10:15 AM – 12:00 PM
Adult Cardiac Track II: Cutting-Edge Surgery for Heart Failure and Coronary Artery Disease
MODERATORS: Arash Salemi, New York, NY, and John M. Stulak, Rochester, MN

10:15 AM
Overview: Current Challenges in Heart Failure and Coronary Artery Disease (CAD)
Arash Salemi, New York, NY

10:19 AM
HeartMate 3 Clinical Trial Update
Chris T. Salerno, Carmel, IN

10:27 AM
PREVENT II: Rationale and Trial Study Design
Robert Adamson, San Diego, CA*

10:35 AM
Thoracotomy Implant of HeartWare HVAD: HVAD LATERAL Study
Simon Matlab, Rochester, MN
10:43 AM  Total Artificial Heart Clinical Trial Update
Francisco A. Arabia, Los Angeles, CA

10:51 AM  Hemocompatibility of Fully Magnetically Levitated Pumps
Nir Uriel, Chicago, IL

10:59 AM  Panel Discussion

11:07 AM  Submitted Presentation: EpicHeart™ Soft Robotic Device to Support Heart Function
William C. Altman, Houston, TX

11:15 AM  Submitted Presentation: First-in-Human Clinical Trial of a Minimally Invasive Left Ventricular Assist Device
Valluvan Jeevanandam, Chicago, IL

11:23 AM  Coronary Artery Bypass Grafting (CABG) or Percutaneous Coronary Intervention for Ischemic Cardiomyopathy
David P. Taggart, Oxford, United Kingdom

11:31 AM  External Stent for Saphenous Vein Grafts in CABG
David P. Taggart, Oxford, United Kingdom

11:39 AM  Robotic-Assisted Totally Endoscopic Coronary Artery Bypass for Multivessel CAD: Beyond Most Surgeons’ Reach?
Husam H. Balkhy, Chicago, IL

11:47 AM  Panel Discussion

10:15 AM – 12:00 PM
General Thoracic Track II: Emerging and/or Game-Changing Technologies in the Management of Esophageal Diseases
MODERATORS: Melanie A. Edwards, St Louis, MO, and James D. Luketch, Pittsburgh, PA

10:15 AM  Endoscopic Approach to Zenker’s Diverticulum
Ryan M. Levy, Pittsburgh, PA

10:30 AM  Update on Advances in Antireflux Surgery
Brian E. Louie, Seattle, WA

10:45 AM  Endoluminal Management of Esophageal Leaks
David C. Rice, Houston, TX

11:00 AM  Advances in Peroral Endoscopic Myotomy Technology and Endoscopic Mucosal Closure
Shanda H. Blackmon, Rochester, MN

11:15 AM  Robotic Esophagectomy
Inderpal S. Sarkaria, Pittsburgh, PA

11:30 AM  Endoscopic Techniques in Esophageal Cancer
Wayne L. Hofstetter, Houston, TX

11:45 AM  Submitted Presentation: A Bioengineered Implant for Esophageal Replacement
Saverio La Francesca, Holliston, MA

12:00 PM – 1:00 PM
LUNCH—Visit Tech-Con Exhibits

1:00 PM – 2:30 PM
Adult Cardiac Track III: Contemporary and Future Mitral Valve and Atrial Fibrillation Practice
MODERATORS: Vinay Badhwar, Morgantown, WV, and Tom C. Nguyen, Houston, TX

1:00 PM  Overview: Advances in Surgical Therapy for Mitral Valve Disease and Atrial Fibrillation
Vinay Badhwar, Morgantown, WV

1:04 PM  Defining the Mitral Valve Surgeon of the Future: Time for an Honest Appraisal
T. Sloane Guy, New York, NY

1:12 PM  MitraClip, Transcatheter Mitral Valve Repair (TMVR), Robotics, Port Access, and Open Surgery: Can We Do It All?
Robert L. Smith, Plano, TX

1:20 PM  Robotic Reconstruction for Complex Primary Mitral Regurgitation: No Limits
Vinay Badhwar, Morgantown, WV

1:28 PM  Robotic/Minimally Invasive Cardiac Surgery Treatment Options for Atrial Fibrillation: Better Than Catheter Ablation?
Evelio Rodriguez, Nashville, TN

1:36 PM  Panel Discussion

1:46 PM  Are Apically Delivered Chords Really the Answer?
Tirone E. David, Toronto, Canada

1:54 PM  Transcatheter Mitral Valve Replacement: Global and Early US Experience
Gilbert H. L. Tang, New York, NY

2:02 PM  Pipeline of TMVR: The Train Has Left the Station!
Michael J. Mack, Plano, TX

2:10 PM  Pipeline of Tricuspid Devices: Fumbling In the Dark or Zeroing In on an Indication?
Steven F. Bolling, Ann Arbor, MI

2:18 PM  Panel Discussion

Please note: Speakers and presentation titles are subject to change.
1:00 PM – 2:30 PM

General Thoracic Track III: Emerging and/or Game-Changing Minimally Invasive Surgery and Other Technologies

MODERATORS: Michael F. Reed, Hershey, PA, and Inderpal S. Sarkaria, New York, NY

1:00 PM
Novel Suture Technologies
Michael F. Reed, Hershey, PA

1:12 PM
Chest Wall Reconstruction Technologies
Shanda H. Blackmon, Rochester, MN

1:24 PM
Advanced Imaging Technologies
Yolonda L. Colson, Boston, MA

1:36 PM
Submitted Presentation: Articulated Minimally Invasive Surgery Instrumentation
Joel Dunning, Middlesbrough, United Kingdom

1:48 PM
Submitted Presentation: Immersive Video Operating Room Training
Douglas R. Johnston, Cleveland, OH

2:00 PM
Submitted Presentation: Autonomous Camera System
Traves Crabtree, St Louis, MO*

2:12 PM
Submitted Presentation: Alternate New Device for Chest Access
Daniel L. Miller, Marietta, GA

2:30 PM – 3:00 PM

BREAK — Visit Tech-Con Exhibits

3:00 PM – 5:00 PM

Joint Session: Robotic Cardiothoracic Innovations and “Shark Tank” — Rapid-Fire Pitches of Revolutionary Technology

MODERATORS: Richard Lee, St Louis, MO, and James D. Luketich, Pittsburgh, PA

“SHARK TANK” JUDGES: Rick Anderson, Austin, TX*, Steven F. Bolling, Ann Arbor, MI, and William E. Cohn, Houston, TX*

3:00 PM
Debate: Robotic Mitral Valve Repair is a Critical Part of the Future of Our Specialty
CON: David H. Adams, New York, NY
PRO: T. Sloane Guy, New York, NY

3:30 PM
Debate: Robotic Thoracic Surgery is a Critical Part of the Future of Our Specialty
CON: Mark S. Allen, Rochester, MN
PRO: Robert J. Cerfolio, New York, NY

3:50 PM
What’s New in Robotic Cardiothoracic Surgical Technology: Updates From Robotic Companies That Are Leading the Way — Intuitive Surgical
Catherine Mohr, Sunnyvale, CA*

4:00 PM
What’s New in Robotic Cardiothoracic Surgical Technology: Updates From Robotic Companies That Are Leading the Way — Medtronic
Paul Hermes, North Haven, CT

4:10 PM
What’s New in Robotic Cardiothoracic Surgical Technology: Updates From Robotic Companies That Are Leading the Way — Verb Surgical
Scott Huennekens, San Diego, CA*

4:20 PM
Submitted Presentation: Novel Nanoparticle for Enhanced Pulmonary Nodule Identification
Jeffrey Port, New York, NY

4:30 PM
Submitted Presentation: Left Ventricular Inflow Stent Reduces Suction Events and Improves Mechanical Circulatory Support
James H. Mehtaфф, Charlottesville, VA

4:40 PM
Submitted Presentation: Videoscope Cleaning Trocar for Minimally Invasive Surgery
Bryan M. Burt, Houston, TX

5:00 PM – 6:30 PM

RECEPTION — Visit Tech-Con Exhibits
Hypertrophic cardiomyopathy (HCM) and anomalous aortic origin of a coronary artery (AAOCA) can lead to sudden death in children and adults. Only a few centers perform a high volume of septal myectomy operations each year, and even fewer have experience treating mid-cavitary obstruction and non-obstructive HCM through the transventricular approach. Adult and pediatric cardiac surgeons may find it difficult to begin doing these types of cases and even more difficult to master a reproducible technique that maximizes benefits and minimizes risks. Also, cardiologists may not know when to refer patients. In this session, pediatric and adult cardiac surgeons, as well as cardiologists, will discuss age-related differences in surgical technique, indications for surgery, and how to encourage bidirectional communication between surgeons and cardiologists about the referral timing of these patients.

Learning Objectives
Upon completion of this activity, participants should be able to:

• List the indications for surgery for HCM and AAOCA
• Describe a transventricular approach to septal myectomy for mid-cavitary obstruction in hypertrophic obstructive cardiomyopathy (HOCM)
• Summarize a combined aortic/transventricular approach to septal myectomy for difficult-to-reach obstruction in HOCM
• Explain the risks associated with a variety of coronary anomalies
• List two methods for surgical management of coronary anomalies

MODERATORS: Stephanie M. Fuller, Philadelphia, PA, Charles B. Huddleston, St Louis, MO, Frank G. Scholl, Hollywood, FL, and James S. Tweddell, Cincinnati, OH

8:00 AM – 12:00 PM
Adult Congenital Heart Disease Symposium: Surgical Management of Hypertrophic Cardiomyopathy and Anomalous Aortic Origin of a Coronary Artery in Children and Adults

9:40 AM  Panel Discussion/Q&A
9:55 AM  Break
10:10 AM  Imaging and Nomenclature for AAOCA
Carlos M. Mery, Houston, TX
10:30 AM  How I Approach AAOCA: Children vs Adults
Vaughn A. Starnes, Los Angeles, CA
10:50 AM  How I Approach AAOCA: Options Other Than Unroofing
Frank L. Hanley, Stanford, CA
11:10 AM  What Is the Role for Coronary Artery Bypass Grafting in AAOCA, and When Do You Operate on the Anomalous Right Coronary Artery?
James Jaggers, Aurora, CO
11:30 AM  Risk Stratification in AAOCA: When to Offer Surgery
Julie Brothers, Philadelphia, PA
11:45 AM  Panel Discussion/Q&A
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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td><strong>Session 1: How to Make Things Go Right</strong></td>
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<tr>
<td>8:10 AM</td>
<td>Evolution of Critical Care and Quality Improvement in the CTICU</td>
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<td>Richard L. Prager, Ann Arbor, MI</td>
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<td>8:30 AM</td>
<td>Enhanced Recovery After Cardiac Surgery</td>
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<td>Jacob Moremen, Jackson, MS</td>
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<td>8:50 AM</td>
<td>Checklists in the CTICU</td>
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<td>Subhasis Chatterjee, Houston, TX</td>
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<tr>
<td>9:10 AM</td>
<td>Break and Networking</td>
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<tr>
<td>9:25 AM</td>
<td><strong>Session 2: When Things Go Wrong Again</strong></td>
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<tr>
<td>9:45 AM</td>
<td>Failure to Rescue in Cardiac Surgery</td>
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<td></td>
<td>Gorav Ailawadi, Charlottesville, VA</td>
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<td>10:05 AM</td>
<td>Difficult Cases</td>
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<tr>
<td></td>
<td>Rita Milewski, Philadelphia, PA</td>
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<tr>
<td>10:25 AM</td>
<td>Break and Networking</td>
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<tr>
<td>10:45 AM</td>
<td><strong>Session 3: When Is Enough, Enough? End-of-Life Discussions vs Continued Aggressive Therapy</strong></td>
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<td>10:40 AM</td>
<td>Ethic 101</td>
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<td>11:05 AM</td>
<td><strong>DEBATE Should E-CPR Be Included as Part of Every Cardiopulmonary Arrest Protocol?</strong></td>
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<tr>
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<td>Yes: Susan D. Moffatt-Bruce, Columbus, OH</td>
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<td></td>
<td>No: Ashish Shah, Nashville, TN</td>
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<tr>
<td>11:45 AM</td>
<td>Audience Q&amp;A and Panel Discussion</td>
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**CHEST @ STS: Advanced Bronchoscopy and Surgical Airway Symposium**

Cardiothoracic surgeons are essential in the diagnosis and treatment of lung nodules and lung cancer. New technology, such as endobronchial ultrasound (EBUS), navigational bronchoscopy, and cutting-edge endobronchial therapeutics, have changed the approach of lung cancer staging and should be learned by cardiothoracic surgeons. Additional training in therapeutic bronchoscopy is needed to help patients with newly diagnosed lung nodules, as well as palliation of malignant airway obstruction. This joint session by STS and the American College of Chest Physicians will provide attendees with the knowledge they need to navigate this evolving field.

### Learning Objectives

Upon completion of this activity, participants should be able to:
- Identify indications, yield, and complications of EBUS and navigational bronchoscopy
- Recognize the benefits and limitations of airway ablative modalities
- State the benefits and limitations of various airway stents

**MODERATORS:**
- Momen M. Wahidi, Durham, NC, and Richard I. Whyte, Boston, MA

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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>9:20 AM</td>
<td>Introduction and Welcome</td>
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<tr>
<td>9:45 AM</td>
<td>Break</td>
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<tr>
<td>10:00 AM</td>
<td>Therapeutic Bronchoscopy</td>
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<td>Moishe A. Liberman, Montreal, Canada</td>
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<td>10:20 AM</td>
<td>Tracheal Resection for Benign and Malignant Disease</td>
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<td>Matthew G. Hartwig, Durham, NC</td>
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<td>10:40 AM</td>
<td>Tracheobronchoplasty</td>
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<td>Sudharta P. Gangadharan, Boston, MA</td>
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<td>11:00 AM</td>
<td>Airway Carcinoids – Endoscopic Management</td>
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<td>Adnan Majid, Boston, MA</td>
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<td>Airway Carcinoids – Surgical Management</td>
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<td>Richard I. Whyte, Boston, MA</td>
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<td>11:40 AM</td>
<td>Panel Discussion</td>
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**STS/AATS Critical Care Symposium: When Things Go Wrong in the CTICU and What to Do About It**

It is increasingly apparent that there is a rapidly evolving demographic of the “typical” cardiothoracic surgery patient. Increasing use of technology in an older and more frail population requires the health care team to be well versed in patient optimization, maintenance of safety and quality, and ethical decision making for high-cost interventions. This joint session by STS and the American Association for Thoracic Surgery will provide attendees with a comprehensive review of the roles and responsibilities of interdisciplinary team members and potential pitfalls in the context of increasingly complex patients.

### Learning Objectives

Upon completion of this activity, participants should be able to:
- Discuss the pearls and pitfalls of implementing an ERATS/ERACS program
- Describe the rationale behind handoff checklists
- Identify that failure to rescue from postoperative morbidity is a proposed metric of program quality
- Discern and discuss beneficence vs social justice and how to approach this tenuous balance as it impacts clinical and patient-centered decision making

**MODERATORS:**
- Rakesh C. Arora, Winnipeg, Canada, Michael S. Firstenberg, Akron, OH, Jay G. Shake, Jackson, MS, and Glenn J. R. Whitman, Baltimore, MD

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<tr>
<td>8:00 AM</td>
<td>Introduction and Welcome</td>
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<tr>
<td>8:10 AM</td>
<td>EBUS and Transbronchial Needle Aspiration</td>
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<td></td>
<td>Momen M. Wahidi, Durham, NC</td>
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<tr>
<td>8:30 AM</td>
<td>Navigational Bronchoscopy</td>
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<td></td>
<td>Alex Chen, St Louis, MO</td>
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<tr>
<td>8:50 AM</td>
<td>EBUS Case Scenarios</td>
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<td>Momen M. Wahidi, Durham, NC, and Richard I. Whyte, Boston, MA</td>
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<tr>
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SCA @ STS: Integrating Perioperative Echocardiography Into Cardiac Surgical Clinical Decision Making

This joint session by STS and the Society of Cardiovascular Anesthesiologists will address recent advances in the field of echocardiography, continuously changing technology for the treatment of valvular disease, and new evidence regarding the appropriateness of established procedures. New guidelines for assessment of native valvular regurgitation, updated guidelines on the treatment of ischemic mitral regurgitation, catheter-based procedures for mitral valve regurgitation, and procedural complications diagnosed by intraprocedural echocardiography will be reviewed.

Learning Objectives

Upon completion of this activity, participants should be able to:

• Recognize the utility of echo anatomy and intraoperative echocardiographic analysis in surgical decision making for open and percutaneous procedures
• Discuss the integration of echocardiographic measurements with new clinical evidence in certain patient populations
• Identify and apply echocardiographic findings to case studies

MODERATORS: Alina Nicoara, Durham, NC, and Stanton K. Shernan, Boston, MA

PANELISTS: Vinay Badhwar, Morgantown, WV, John V. Conte, Hershey, PA, Tsuyoshi K. Kaneko, Boston, MA, and Vinod H. Thourani, Washington, DC

8:00 AM  Introduction
8:10 AM  Case 1: Ischemic Mitral Regurgitation—Impact of New Guideline Recommendations
  Stanton K. Shernan, Boston, MA
8:30 AM  Panel Discussion
8:50 AM  Case 2: MitraClip—A Complex Case
  Charles B. Nyman, Boston, MA
9:10 AM  Panel Discussion
9:30 AM  Case 3: Left Ventricular Outflow Tract Obstruction After Mitral Valve Replacement
  Stanton K. Shernan, Boston, MA
9:50 AM  Panel Discussion
10:10 AM  Break
10:30 AM  Case 4: Right Ventricular Dysfunction After Tricuspid Valve Surgery
  Alina Nicoara, Durham, NC
10:50 AM  Panel Discussion
11:10 AM  Case 5: High Pressure Gradient After Aortic Valve Replacement
  Alina Nicoara, Durham, NC
11:30 AM  Panel Discussion
11:50 AM  Concluding Remarks

Multidisciplinary Innovations in Cardiothoracic Patient Care

Allied health professionals are critical members of the cardiothoracic surgical team who enhance patient safety through multidisciplinary performance improvement and research activities, yet forums for the discussion and dissemination of these findings are limited. This session will update attendees on recent practice innovations while providing an opportunity to discuss and debate important practice issues with a broad audience. This focus on the surgical team will lead to enhanced communication and improve patient care across the continuum of care delivery.

Learning Objectives

Upon completion of this activity, participants should be able to:

• Discuss recent innovations in cardiothoracic management that improve patient care
• Identify important areas of clinical research that impact the cardiothoracic patient
• Develop strategies for implementing care improvements locally

MODERATORS: Tara Bartley, Birmingham, United Kingdom*, and Sondra J. Ley, Greenbrae, CA

8:00 AM  Welcome
8:15 AM  Percutaneous Valve Innovations: Impact for Non-Surgeons
  Patricia A. Keegan, Atlanta, GA
8:45 AM  Extracorporeal Membrane Oxygenation (ECMO) Innovations: Strategies That Make a Difference
  Michael Colligan, Houston, TX
9:15 AM  Designing a Comprehensive Ventricular Assist Device Program
  Sarah D. Schettle, Rochester, MN
9:45 AM  Break
10:15 AM  Caregiver Burnout
  Mary Zellinger, Atlanta, GA
10:30 AM  Bundled Payments in Cardiac Surgery
  Jill R. Engel, Durham, NC
10:45 AM  Heart Service Line Approach to Safe Culture
  Brittany A. Zwischenberger, Lexington, KY
11:00 AM  Negative Pressure Wound Therapy on Closed Wounds
  Richard Van Valen, Rotterdam, The Netherlands
11:15 AM  Implementation of the STS Cardiac Surgical Resuscitation Protocol
  Richard S. Bell, Baltimore, MD
11:30 AM  Break
12:45 PM  Innovations in Nursing: International Perspective
  Tara Bartley, Birmingham, United Kingdom
1:00 PM  Current Thoughts on Medical Innovations
  Joel Dunning, Middlesbrough, United Kingdom
1:30 PM  Break
2:15 PM  A Nurse-Driven Protocol Is Safe and Cost-Effective for Extracorporeal Membrane Oxygenator Support: A Cohort Study
  University of Nebraska Medical Center, Omaha

*Invited
2:45 pm  Total Artificial Heart Using Bilateral Paracorporeal Pulsatile Ventricular Assist Devices in an 8.2 kg Child
R. K. Woods, R. A. Niebler, S. Kindel
Children’s Hospital of Wisconsin, Milwaukee

3:00 pm  Dedicated Thoracic Enhanced Recovery Program Reduces Postoperative Narcotic Consumption
E. Podgaetz1, J. J. Berger1, M. Cohen2, R. S. Andrade2, M. Larson2, J. A. Wahl2
1University of Minnesota, Maple Grove, 2University of Minnesota, Minneapolis

3:15 pm  The Effect of Frailty on Outcomes in Adult Cardiac Surgery Varies by Age
C. S. Bergquist1, E. A. Jackson1, L. M. Cabrera1, G. Paone2, A. Delucia2, C. N. He1, R. L. Prager1, D. S. Likosky1
1University of Michigan, Ann Arbor, 2Bronson Methodist Hospital, Kalamazoo, MI, 4University of Michigan Health System, Ann Arbor

3:30 pm  Evolution of a Mechanical Circulatory Support Program at a Freestanding Children’s Hospital
C. Fraser, I. Adachi, M. A. Chacon-Portillo, R. A. Zee-Vera, J. Heinle, C. M. Mery, L. C. Kane, A. G. Cabrera, A. M. Qureshi
Texas Children’s Hospital/Baylor College of Medicine, Houston

3:45 pm  Closing Remarks
Sondra J. Ley, Greenbrae, CA

10:00 AM – 4:30 PM  “My Tube” Adult Cardiac How-To Video Session
This session is designed for all practicing adult cardiac surgeons—experienced and novice, academic and private practice. This video-based session will emphasize technical tips to help surgeons improve their practice and outcomes immediately. Topics will include heart failure surgery, coronary disease, valvular disease, and aortic/great vessel disease.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe the technical aspects of complex operations commonly performed in adult cardiac surgery
• Discuss the pitfalls of critical steps in complex cardiac surgery
• Identify novel tricks to make cardiac operations easier, safer, and more reproducible

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

Mitral/Atrial Fibrillation Surgery
10:00 AM  Mitral Repair With Mitral Annular Calcification
Tirone E. David, Toronto, Canada

10:12 AM  Simple Robotic Mitral Repair
Robert L. Smith, Plano, TX

10:24 AM  Rheumatic Mitral Repair
Vinay Badhwar, Morgantown, WV

10:36 AM  Mitral Repair With Hypertrophic Obstructive Cardiomyopathy
Michael Chu, London, Canada

10:48 AM  Mitral Repair With Papillary Muscle Repositioning
Joseph Lamelas, Miami Beach, FL

11:00 AM  Surgical Left Atrial Appendage (LAA) Closure via Left Atrium and Epicardial
A. Marc Gillinov, Cleveland, OH

11:12 AM  Video-Assisted Thoracic Surgery and Subxiphoid LAA Closure
TBD

11:24 AM  Maze During Non-Mitrail Surgery
Jonathan Philpott, Norfolk, VA

11:36 AM  Question the Experts

12:00 PM  Coronary Artery Disease
12:50 PM  Coronary Endarterectomy
Silvana Marasco, Melbourne, Australia

1:02 PM  Combined Carotid-Coronary Artery Bypass Grafting (CABG)
George L. Zorn, Kansas City, KS*

1:14 PM  Minimally Invasive CABG
Joseph McGinn, Charlotte, NC

1:26 PM  Hybrid Coronary Revascularization (Robotic)
Francis P. Sutter, Wynnewood, PA

1:38 PM  Question the Experts

Aortic Valve/Aortic Surgery
1:50 PM  Sutureless Aortic Valve Replacement
David Heimansohn, Indianapolis, IN

2:02 PM  Rare Alternative Access Transcatheter Aortic Valve Replacement (TAVR) – Carotid, Transcaval
Vinod H. Thourani, Washington, DC

2:14 PM  Surgical Removal of TAVR (Late Failure)
Michael A. Borger, New York, NY

2:26 PM  Redo Arch Reconstruction
John A. Kern, Charlottesville, VA

2:38 PM  Redo Root (Root Abscess)
Wilson Y. Szeto, Philadelphia, PA

2:50 PM  Dissection – Antegrade Stenting
Derek Brinster, New York, NY

3:02 PM  Bicuspid Aortic Valve Repair
Thomas G. Gleason, Pittsburgh, PA

3:14 PM  Question the Experts

Heart Failure Surgery
3:26 PM  Extracorporeal Membrane Oxygenation (ECMO) – Arterial Access (Femoral) With Distal Femoral Perfusion
David A. Dean, Atlanta, GA*

3:38 PM  ECMO – Left Ventricle Venting Strategies
Jay K. Bhatia, Iowa City, IA

3:50 PM  Temporary Left Ventricular Assist Device – Minimally Invasive
Hiroy Takayama, New York, NY

4:02 PM  Pump Exchange – Subcostal Approach
Behzad Soleimani, Hershey, PA

4:14 PM  Minimally Invasive HVAD
Jan Schmitto, Hanover, Germany

4:26 PM  Question the Experts

12:00 PM – 1:00 PM  BREAK
Residents Symposium: Transitioning From Residency to a Successful Practice

This symposium will help cardiothoracic surgery residents navigate the challenges of completing training and beginning practice. The first session will explain the process of finding a position: reasons for choosing private or academic practice, logistics and best practices for the job search, and considerations in contract negotiation. The second session will cover essential aspects of growing a new practice: building a clinical practice, benchmarks to set during the beginning of one's career, health care/individual surgeon finances, and achieving work-life balance. Each session will be followed by small group table discussions led by experienced surgeons and a larger group discussion with the speakers.

Learning Objectives

Upon completion of this activity, participants should be able to:

• Outline the elements of a successful job search
• Explain the decision making behind choosing academic or private practice
• Describe the basic elements of contract negotiation
• Delineate benchmarks for early career development and clinical program development
• Discuss how cardiothoracic surgeons’ individual finances relate to health care financing
• Identify aspects of work-life balance that are important to consider in career planning

MODERATOR: Craig J. Baker, Los Angeles, CA

Session I: Finding a Job

1:00 PM – 2:20 PM

1:00 PM Introduction
1:05 PM Why I Chose Private Practice
   Asad A. Shah, Raleigh, NC
1:18 PM Why I Chose Academics
   Mara B. Antonoff, Houston, TX
1:31 PM Mechanics of Finding a Job
   Ravi Ghanta, Houston, TX
1:44 PM Negotiating a Contract
   Michael P. Robich, Portland, ME
1:57 PM Discussion

Session II: Transition to Practice

2:30 PM – 4:30 PM

2:30 PM Introduction
2:35 PM Building a Successful Clinical Practice: Challenges and Solutions
   Edward P. Chen, Atlanta, GA
2:43 PM Early Career Development
   Neel R. Sodha, Baltimore, MD
2:56 PM What You Need to Know About Finances: Coding, Billing, Reimbursement, and Margins
   Frederick Y. Chen, Boston, MA
3:09 PM Achieving a Successful Work-Life Balance
   Sidharta P. Gangadharan, Boston, MA
3:22 PM Discussion

How-To Video Session: Technical Tips to Avoid Pitfalls and Simplify Congenital and Pediatric Cardiac Surgical Procedures

Textbooks and peer-reviewed publications are not ideal formats for showing the technical nuances of challenging operations. This video session will help congenital, pediatric, and adult congenital surgeons master difficult operative scenarios, such as complex atrioventricular valve disease and complex biventricular repairs. In addition, attendees will be exposed to emerging technology and unique strategies for improved surgical management of heart failure, mechanical support, and cardiac transplantation.

Learning Objectives

Upon completion of this activity, participants should be able to:

• List the technical aspects of complex operations performed in congenital and pediatric cardiac surgery
• Discuss pitfalls of critical steps in complex congenital and pediatric cardiac surgery
• Identify novel surgical approaches to make congenital and pediatric cardiac operations safer and more reproducible
• Describe the technical nuances for operative interventions that are not commonly seen in clinical practice

MODERATORS: S. Adil Husain, San Antonio, TX, and James S. Tweddell, Cincinnati, OH

Session I: Ebstein Anomaly

1:00 PM – 2:20 PM

1:00 PM Introduction
1:05 PM Starnes Procedure
   Vaughn A. Starnes, Los Angeles, CA
1:15 PM Neonatal Ebstein Repair
   TBD
1:30 PM Cone Procedure
   Joseph A. Dearani, Rochester, MN

Session II: Systemic Atrioventricular (AV) Valve Disease

1:45 PM – 3:05 PM

1:45 PM Use of CorMatrix for Mitral Valve Surgery
   Richard G. Ohye, Ann Arbor, MI
2:00 PM Melody Valve Use in the Mitral Position
   Sitaram M. Emani, Boston, MA
2:15 PM Complex AV Valve Repair Associated Stage II or III Palliation for Single Ventricle Disease
   Glen S. Van Arsdell, Ontario, Canada*
2:30 PM Break

Session III: Complex Biventricular Repairs

3:00 PM – 4:20 PM

3:00 PM Nikaido Procedure
   Victor Morell, Pittsburgh, PA
3:15 PM Biventricular Repairs in Complex Heterotaxy Patients
   Pedro J. del Nido, Boston, MA
3:30 PM Double Switch Operation
   James S. Tweddell, Cincinnati, OH

Session IV: Mechanical Surgical Support

3:45 PM – 4:45 PM

3:45 PM Extracorporeal Membrane Oxygenation Simulation Program
   David M. McMullan, Seattle, WA
4:00 PM HeartWare Total Artificial Heart
   David L. Morales, Cincinnati, OH
4:15 PM Transplant Techniques in Complex Fontan Patients
   Kirk R. Kanter, Atlanta, GA
How-To Video Session: Tips and Tricks to Maximize Efficiency in Minimally Invasive General Thoracic Surgery

This video session will focus on technical tips and tricks to make difficult, minimally invasive general thoracic surgeries more efficient. Topics include maximizing efficiency in robotic and thoracoscopic segmentectomy and lobectomy, as well as esophagectomy. Speakers also will discuss systems-based approaches to efficiency in the perioperative and postoperative periods, advice on nodule localization, and endoscopic approaches to esophageal cancer.

Learning Objectives
Upon completion of this activity, participants should be able to:
- Describe techniques to improve efficiency in the conduct of minimally invasive lobectomy, segmentectomy, and esophagectomy
- Discuss methods for identifying lung nodules amenable to segmentectomy and for nodule localization
- Explain endoscopic approaches to esophageal cancer, including selection criteria and potential complications
- Describe systems-based methods to improve efficiency in the operative and postoperative setting

MODERATORS: Robert J. Cerfolio, New York, NY, and Janet P. Edwards, Calgary, Canada

1:00 PM – 4:30 PM

1:00 PM – 1:05 PM
Introduction

1:05 PM – 1:20 PM
Robotic Lobectomy
Michael S. Kent, Boston, MA

1:20 PM – 1:35 PM
Thoracoscopic Lobectomy
Michael J. Weyant, Aurora, CO

1:35 PM – 1:50 PM
Lean and Efficient Surgery and Recovery: A Systems Approach
Mara B. Antonoff, Houston, TX

1:50 PM – 2:05 PM
Panel Discussion

2:05 PM – 2:15 PM
Break

2:15 PM – 2:30 PM
Robotic Segmentectomy
Robert J. Cerfolio, New York, NY

2:30 PM – 2:45 PM
Thoracoscopic Segmentectomy
Janet P. Edwards, Calgary, Canada

2:45 PM – 3:00 PM
How Do I Find the Nodule? Tips, Tricks, and Novel Techniques
Yolonda L. Colson, Boston, MA

3:00 PM – 3:15 PM
Panel Discussion

3:15 PM – 3:30 PM
Break

3:30 PM – 3:45 PM
Robotic Ivor Lewis
Inderpal S. Sarkaria, Pittsburgh, PA

3:45 PM – 4:00 PM
Transhiatal Esophagectomy
Jules Lin, Ann Arbor, MI

4:00 PM – 4:15 PM
Endoscopic Approaches to Esophageal Cancer
Virginia R. Little, Boston, MA

4:15 PM – 4:30 PM
Panel Discussion

2:00 PM – 6:30 PM
Scientific Posters

4:30 PM – 6:30 PM
Opening Reception in STS Exhibit Hall

7:00 PM – 10:00 PM
President’s Reception

Network with STS surgeon leaders and fellow meeting attendees at the President’s Reception. This high-profile event will be held on an oceanfront terrace at the luxurious Fort Lauderdale Marriott Harbor Beach Resort & Spa. While a tropical-themed band plays in the background, enjoy gourmet food stations and an open bar. Colorful tropical birds will be on hand to help set the mood. This reception takes the place of the STS Social Event, which previously had been held on Monday evening, leaving the night open for industry-sponsored events or socializing with your colleagues. Tickets can be purchased for $95. Don’t miss this opportunity to connect with leaders in cardiothoracic surgery in a picturesque, informal setting.
Monday
JANUARY 29, 2018

6:30 AM – 5:00 PM
Registration

9:00 AM – 4:30 PM
Exhibit Hall
Scientific Posters

7:00 AM – 10:50 AM
General Session I

MODERATORS: Richard L. Prager, Ann Arbor, MI, and Joseph F. Sabik III, Cleveland, OH

7:00 AM
Opening Remarks

7:15 AM
ABSTRACT: J. Maxwell Chamberlain Memorial Paper for Adult Cardiac Surgery: Does Surgical Atrial Fibrillation Ablation Improve Long-Term Survival? A Multicenter Analysis
A. Iribarne1, A. W. Discipio1, J. N. McCullough2, R. Quinn2, B. J. Leavitt2, M. P. Robich2, R. S. Kramer2, E. M. Olmstead2, D. J. Malenka3
1Dartmouth-Hitchcock Medical Center, Lebanon, NH, 2Maine Medical Center Cardiovascular Institute, Portland, 3University of Vermont Medical Center, Burlington
DISCUSSANT: A. Marc Gillinov, Cleveland, OH

7:35 AM
The University of Texas MD Anderson Cancer Center, Houston
DISCUSSANT: Farhood Farjah, Seattle, WA

7:55 AM
ABSTRACT: J. Maxwell Chamberlain Memorial Paper for Congenital Heart Surgery: Where Are Patients From and Where Are They Going? Congenital Heart Surgery Referral Patterns in the US
1Phoenix Children's Hospital, AZ, 2University of Michigan, Ann Arbor, 3Ann & Robert H. Lurie Children's Hospital of Chicago, IL, 4Children's Heart Clinic at Children's Hospitals and Clinics of Minnesota, Minneapolis, 5Michigan Congenial Heart Center, Ann Arbor, Johns Hopkins All Children's Hospital, St Petersburg, FL, Children's Hospital of Illinois, Peoria
DISCUSSANT: James S. Tvedteddell, Cincinnati, OH

8:15 AM
ABSTRACT: Richard E. Clark Memorial Paper for Adult Cardiac Surgery: National Outcomes of Elective Hybrid Arch Debranching With Endograft Exclusion vs Total Arch Replacement Procedures: Analysis of the STS Adult Cardiac Surgery Database
1University of Pennsylvania, Philadelphia, 2Hospital of the University of Pennsylvania, Philadelphia, 3West Virginia University, Morgantown, 4Johns Hopkins All Children's Hospital, St Petersburg, FL, 5Emory University, Atlanta, GA
DISCUSSANT: Himanshu J. Patel, Ann Arbor, MI

8:30 AM
ABSTRACT: Penetration, Completeness, and Representativeness of the STS General Thoracic Surgery Database for Lobectomy
1Duke University Medical Center, Durham, NC, 2Duke Clinical Research Institute, Durham, NC, 3University of California, San Diego, 4Yale University School of Medicine, New Haven, CT, 5The Society of Thoracic Surgeons, Chicago, IL, 6Baptist MD Anderson Cancer Center, Jacksonville, FL, 7Duke University, Durham, NC, 8Massachusetts General Hospital, Boston, 9Johns Hopkins All Children's Hospital, St Petersburg, FL, 10Emory University, Atlanta, GA

8:45 AM
Abstract Presentation

8:50 AM
BREAK – Visit Exhibits and Scientific Posters

9:00 AM
Introduction of the President
Keith S. Naunheim, St Louis, MO

9:40 AM
Presidential Address: Eye of the Beholder: The Reinvention of Seeing
Richard L. Prager, Ann Arbor, MI
MONDAY, JANUARY 29, 2018

10:50 AM – 11:30 AM
BREAK—Visit Exhibits and Scientific Posters

11:30 AM – 12:30 PM
Adult Cardiac: Arrhythmia/Atrial Fibrillation
MODERATORS: T. Sloane Guy, New York, NY, and Patrick M. McCarthy, Chicago, IL

11:30 AM
Concomitant Atrial Fibrillation Made Simple: What is the Right Lesion Set in Each Operation and What Is the Right Energy Source?
A. Marc Gillinov, Cleveland, OH

11:40 AM
ABSTRACT: Outcomes of Robotic-Assisted Surgical Ablation of Atrial Fibrillation Combined With Mitral Valve Surgery
M. Ju, J. Kim, J. Lee
Asan Medical Center, Seoul, South Korea

11:50 AM
Left Atrial Appendage: How Should I Treat and In What Setting?
Richard Lee, St Louis, MO

12:00 PM
ABSTRACT: Hybrid Thoracoscopic Approach Is Effective for the Treatment of Long-Standing Persistent Lone Atrial Fibrillation: 3-Year Clinical Update of the HISTORIC-AF Trial
C. C. Muneretto1, G. Bisleri2, F. Rosati1, L. Giroletti1,
L. L. Di Bacco2, A. A. Repossini1, A. A. Curnis1, M. Cerini1,
G. G. Polvani4
1University of Brescia Medical School, Italy, 2Queen’s University, Kingston, Canada, 3Paracelsus Medical University Nuremberg, Germany, 4University of Milan, Italy

12:10 PM
ABSTRACT: Robotic Bilateral Cryo-Maze Ablation for Persistent Lone Atrial Fibrillation
V. Badhwar, T. Murashita, J. S. Rankin, L. M. Wei
West Virginia University, Morgantown

12:20 PM
Discussion

11:30 AM – 12:30 PM
Basic Science Research: Adult Cardiac
MODERATORS: Amar O. Geirsson, New Haven, CT, and Bo Yang, Ann Arbor, MI

11:30 AM
ABSTRACT: Targeted Metabolism Profiling Identifies Novel Circulating Biomarkers in Peripheral Blood in Nonsyndromic Thoracic Aortic Aneurysm
H. N. Wang1, M. A. Wagner2, C. N. Haynes3,
O. R. Ilkayeva2, S. H. Shah1, G. C. Hughes1
1Duke University Medical Center, Durham, NC, 2Duke University School of Medicine, Durham, NC

11:40 AM
ABSTRACT: Diazoxide Attenuates Spinal Cord Ischemia-Reperfusion Injury Through STAT3 Pathway
K. J. Yamanaka1, M. A. Eldeiry2, M. Aftab3, X. S. Meng3,
M. J. Weyard4, J. C. Cleveland Jr3, D. A. Fullerton5,
T. B. Reece1
1University of Colorado, Aurora, 2University of Colorado Anschutz Medical Campus, Aurora, 3University of Colorado School of Medicine, Aurora

11:50 AM
ABSTRACT: Microvesicles Induce Reduction in Inflammatory and Increase in Angiogenic Signaling in Chronically Ischemic Myocardium
L. A. Scrimgeour1, B. A. Potz1, V. I. Pavlov1,
B. A. Colantuono1, R. M. Abid2, N. Sudha3, F. W. Sellke3
1Brown University, Providence, RI, 2Brown University Alpert Medical School, Providence, RI, 3Brown Medical School/Rhode Island Hospital, Providence

12:00 PM
ABSTRACT: Tissue-Engineered Cardiac Patches Seeded With Human-Induced Pluripotent Stem Cell-Derived Cardiac Progenitor Cells Promote Short-Term Cardiac Function in Rat Left Ventricle Model
S. Miyamoto1, T. T. Sugiuara2, H. H. Miyachi1, C. K. Breuer1
1Nationwide Children’s Hospital, Columbus, OH, 2Texas Heart Institute/Baylor College of Medicine, Houston

12:10 PM
ABSTRACT: Decreased PGC-1α Post-Cardiopulmonary Bypass Leads to Impaired Oxidative Stress Response in Diabetic Patients
M. S. Saraf1, J. Jeganathan1, P. Mahmood1, K. R. Khabbaz1,
Z. Knoi1, V. Sethnithanathan2, D. Liu1, L. M. Chu1, R. N. Feng1,
R. Matyal1
1Beth Israel Deaconess Medical Center, Boston, MA, 2Harvard Medical School, Boston, MA

12:20 PM
ABSTRACT: Development of a Porcine Beating Heart Model of Self-Myocardial Retperfusion: Evaluation of Hemodynamic and Cardiac Responses to Ischemia and Potential Clinical Applications
D. Grandmougin, J. Casse, A. Chalon, Y. Luo, F. Groubatch-Joineau, B. Mourer, M. Grandmougin, D. Grandmougin,
G. Gauchotte, J. Maureira, N. Tran
University of Lorraine

11:30 AM – 12:30 PM
Basic Science Research: General Thoracic
MODERATORS: Jonathan D’Cunha, Pittsburgh, PA, and Arun K. Singhal, Longview, TX

11:30 AM
ABSTRACT: Porphyrin-HDL: A Novel Photosensitizing Nanoparticle for Lung Cancer Therapy
H. Uijie1, R. Fan2, L. Ding3, T. Kato1, D. Lee2, K. Fujino1,
T. Kinoshita1, C. Lee4, J. Chen5, H. H. Chan6, R. Weersink3,
B. C. Wilson7, T. K. Waddell8, S. Keshavjee8, G. Zheng9,
K. Yasufuku1
1Toronto General Hospital, Canada, 2University Health Network, Toronto, Canada, 3TECHNA Institute, University Health Network, Toronto, Canada

11:45 AM
ABSTRACT: Povidone Iodine Results in Rapid Killing of Thymic Epithelial Tumor Cells Through Cellular Fixation
H. Lee1, H. Jang1, S. Groth1, J. S. Friedberg2,
D. J. Sugarbaker1, B. Burt1
1Baylor College of Medicine, Houston, TX, 2University of Maryland, Baltimore

12:00 PM
ABSTRACT: Dynamic Changes of Circulating Tumor DNA in Surgical Lung Cancer Patients: A Prospective Cohort Study
K. Chen1, H. Zhao1, F. Yang1, T. Wang2, L. Wang2, J. Wang1
1Peking University People's Hospital, Beijing, China, 2Berry Genomics Corp, Beijing, China

12:15 PM
ABSTRACT: Mesenchymal Stem Cells Regulate Granulation Tissue Formation of Bioengineered Tracheal Grafts
1University of Iowa, Iowa City, 2Mount Sinai St Luke's Hospital, New York, NY, 3Emory University, Atlanta, GA, 4Brown University, Providence, RI, 5University of Miami, Miami, FL
MONDAY, JANUARY 29, 2018

Miami, FL

Rabin, Baltimore, MD

STS 54th Annual Meeting | Advance Program

11:30 AM – 12:30 PM

Congenital: Adult Congenital

MODERATORS: Joseph A. Dearani, Rochester, MN, and Kristine Gulsenian, Miami, FL*

11:30 AM

ABSTRACT: Long-Term Growth of the Neoaortic Root After the Arterial Switch Operation

S. Oda, T. Nakano, S. Fujita, S. Sakaguchi, H. H. Kado
Fukuoka Children's Hospital, Japan

11:45 AM

ABSTRACT: Surgery for Anomalous Aortic Origin of the Coronary Arteries – Not Just for Kids!

A. Vinnakota1, R. D. Stewart2, H. K. Najm1, G. B. Pettersson2
1Case Western Reserve University School of Medicine, Cleveland, OH, 2Cleveland Clinic, OH

12:00 PM

ABSTRACT: 360° Cone Reconstruction for Ebstein Anomaly

M. E. Mitchell1, P. Kouretas2
1Children's Hospital of Wisconsin, Milwaukee, 2University of California San Francisco

12:15 PM

ABSTRACT: Aortic Dissection Following the Ross Procedure

S. R. Richey1, A. C. Fiore3, C. B. Huddleston2
1Southern Illinois University School of Medicine, Carbondale, 2Cardinal Glennon Children's Hospital, St Louis, MO

11:30 AM – 12:30 PM

Critical Care

MODERATORS: Rainer G. H. Moosdorf, Marburg, Germany, and Joseph Rabin, Baltimore, MD

11:30 AM

ABSTRACT: Even Mild Acute Kidney Injury Adversely Affects Early Survival After Thoracocardiobdominal Aortic Aneurysm Repair

S. Chatterjee1, S. A. LeMaire2, H. Amarasekara2, S. Y. Green3, M. Price4, O. Zhang5, O. Preventza6, R. Raghavan2, K. I. de la Cruz7, J. S. Coselli2
1Baylor/Texas Heart Institute, Houston, 2Baylor College of Medicine, Houston, TX

11:45 AM

ABSTRACT: Variation in Platelet Transfusion Practices During Cardiac Operations Among Centers in Maryland: Results From a State Quality Improvement Collaborative

1The Johns Hopkins University School of Medicine, Baltimore, MD, 2The Johns Hopkins University School of Medicine, Baltimore, MD, 3Mount Sinai Health System, New York, NY, 4Mount Sinai West and St Luke's Hospitals, New York, NY, 5Mount Sinai Health System, New York, NY

12:00 PM

ABSTRACT: Pretreatment With Glucose-Insulin-Potassium Improves Ventricular Performance After Valve Replacement in Patients With Severe Aortic Valve Stenosis: A Randomized Controlled Trial

M. Licker, T. Sologashvili, J. Diaper, C. Ellenberger
Geneva University Hospital, Switzerland

12:15 PM

ABSTRACT: Nutrition Support After Cardiac Surgery: A Prospective Study Resulting in Evident Lessons to Improve Its Delivery

C. Ong1, P. M. Brown2, R. Otchuma2, P. K. Yesantharao2, A. Young1, J. K. Canner3, T. A. Brown6, T. C. Crawford1, M. S. Sussman1, G. J. Whitman1
1The Johns Hopkins Hospital, Baltimore, MD, 2The Johns Hopkins University School of Medicine, Baltimore, MD

11:30 AM – 12:30 PM

NEW! Diversity and Inclusion in Cardiothoracic Surgery: What's In It for Me?

At this new session, organized by the STS Task Force on Diversity and Inclusion, attendees will learn how diversity and inclusion can be valuable to their practice and service lines, training efforts, and relationships in the communities in which they practice. Speakers will address the role of diversity and inclusion in the cardiothoracic surgery workforce and explore why physicians who are underrepresented in medicine are important for the optimal delivery of cardiothoracic surgery specialty care without cultural bias.

Learning Objectives

Upon completion of this activity, participants should be able to:

• Define diversity as it relates to the health care workforce and the care of diverse patient populations
• Define inclusion as it relates to the health care workplace, leadership, and the care of diverse patient populations
• Define underrepresentation minority (URM)
• Discuss how a diverse cardiothoracic surgery workforce can improve patient outcomes through increasing cultural competency and mitigating implicit provider bias
• Explain how the inclusion of URM trainees and junior faculty and staff helps increase URM pipeline to the clinical workforce and make successful diversification efforts

MODERATOR: David T. Cooke, Sacramento, CA

PANELISTS: Joanna Chikwe, New York, NY*, Christopher M. Draft, Atlanta, GA, Luis Godoy, Sacramento, CA, Keith S. Naunheim, St Louis, MO, Jackie Olive, Houston, TX, and Africa E. Wallace, Atlanta, GA*

11:30 AM

Introduction

David T. Cooke, Sacramento, CA, and Richard L. Prager, Ann Arbor, MI

11:35 AM

Bridging the Cultural Divide in Cardiothoracic Surgery: The Value Proposition of Diversity and Inclusion Excellence

David A. Acosta, Washington, DC

12:05 PM

Introduction of Panelists

David T. Cooke, Sacramento, CA

12:10 PM

Panel Discussion

11:30 AM – 12:30 PM

General Thoracic: New Technology

MODERATORS: Mara B. Antonoff, Houston, TX, and Kazuhiro Yasufuku, Toronto, Canada

11:30 AM

ABSTRACT: Novel Thoracoscopic Surgical Navigation System Provides Augmented Real-Time Imaging for Minimally Invasive Resection of Chest Wall Tumors

C. Lee1, H. H. Chan2, H. Ujjie1, K. Fujino3, T. Kinoshita1, K. Yasufuku1
1Toronto General Hospital, Canada, 2TECHNA Institute, University Health Network, Toronto, Canada

11:45 AM

ABSTRACT: Digital Air Leak Monitoring for Patients Undergoing Lung Resection: A Randomized Controlled Clinical Trial

M. M. Plourde1, A. J. Jad1, A. A. Mujoomdar1, H. J. Henteleff1, D. C. Bethune2
1Dalhousie University, Halifax, Canada, 2Victoria General Hospital, Halifax, Canada

12:00 PM

ABSTRACT: Decreased Length of Stay Associated With Minimally Invasive Pulmonary Resection Does Not Translate to Functional Recovery Advantage

S. J. Kaplan1, P. A. Trottmann1, G. H. Porteous1, R. A. Prusynski1, A. J. Morris1, E. A. Kauer1, D. E. Low1
1Dalhousie University, Halifax, Canada, 2University of Washington, Seattle

11:30 AM

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C. Lee1, H. H. Chan2, H. Ujjie1, K. Fujino3, T. Kinoshita1, K. Yasufuku1
1Toronto General Hospital, Canada, 2TECHNA Institute, University Health Network, Toronto, Canada

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1Dalhousie University, Halifax, Canada, 2Victoria General Hospital, Halifax, Canada

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1Dalhousie University, Halifax, Canada, 2University of Washington, Seattle
Health Informatics in the Thoracic Surgery Arena
Susan D. Moffatt-Bruce, Columbus, OH

11:30 AM – 12:30 PM
STS/CATS/CSCS: Difficult Decisions in Thoracic Surgery—Advice From Canadian and American Experts

This session represents the collaborative efforts of STS, the Canadian Association of Thoracic Surgeons, and the Canadian Society of Cardiac Surgeons and will provide current perspectives from the United States and Canada on difficult problems in general thoracic surgery. Expert thoracic surgeons from each country will discuss management of airway injuries post-esophagectomy, management of N2 disease in non-small cell lung cancer (NSCLC), and more.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Discuss intraoperative measures to reduce the chance of airway injury during esophagectomy
• Review the options for management of airway-conduit fistulae and airway injuries post-esophagectomy
• Explain the potential role of extracorporeal membrane oxygenation in the repair of complex airway injuries post-esophagectomy
• Discuss inclusion and exclusion criteria for the surgical management of N2 disease in NSCLC
• List the potential neoadjuvant options in N2 disease

MODERATORS: Robert J. Cerfolio, New York, NY, and Janet P. Edwards, Calgary, Canada

11:30 AM Case Presentation: Difficult Decisions Involving N2 Disease in NSCLC
11:36 AM N2 Disease – US Perspective
Thomas A. D’Amico, Durham, NC
11:43 AM N2 Disease – Canadian Perspective
Sean C. Grondin, Calgary, Canada
11:50 AM Discussion
12:00 PM Case Presentation: Airway Injuries and Fistulae in Esophageal Cancer Surgery
12:06 PM Post Esophagectomy Airway Injuries/Fistulae – US Perspective
Cameron D. Wright, Boston, MA
12:13 PM Post Esophagectomy Airway Injuries/Fistulae – Canadian Perspective
Moishe A. Liberman, Montreal, Canada

12:20 PM Discussion

12:30 PM – 1:30 PM
BREAK—Visit Exhibits and Scientific Posters

1:15 PM – 5:15 PM
Clinical Scenarios: Cardiologists and Surgeons Working Together

This session will concentrate on a true collaborative “heart team” approach to treating complex issues facing the practicing physician or affiliate provider. Using a unique and innovative format highlighting the spectrum of adult cardiac diseases, speakers will discuss the multidisciplinary approach to mitral stenosis and regurgitation, tricuspid regurgitation, aortic stenosis and regurgitation, and surgical management of heart failure. Session components include invited technical videos, a critical review of the literature, case-based presentations describing difficult clinical scenarios, and an interactive panel discussion.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Discuss the controversies surrounding the management of tricuspid valve disease
• Describe the indications and contraindications for the treatment of mitral regurgitation
• Describe the construction and makeup of the multidisciplinary “heart team” and its influence in improving patient outcomes and fostering communication between specialties
• Explain the optimal management of patients with specific case scenarios who are evaluated for aortic stenosis, congestive heart failure, mitral regurgitation, and tricuspid regurgitation


1:15 PM Introduction
Vinod H. Thourani, Washington, DC

Heart Team Approach (Aortic Valve)
1:15 PM Case Presentation
Christian Shults, Atlanta, GA
1:20 PM Optimal Timing for Replacement of the Aortic Valve (SAVR or TAVR) for Severe, Asymptomatic Aortic Stenosis
Patrick T. O’Gara, Boston, MA
1:30 PM Lessons Learned From the STS/ACCTVT Registry™
Vinod H. Thourani, Washington, DC
1:38 PM The Rationale and Need for a National System of Valve Centers
Michael J. Mack, Plano, TX
1:48 PM When to Replace the Root in Patients With Trileaflet and Bileaflet Aortic Valve Disease
Joseph E. Bavaria, Philadelphia, PA
1:58 PM Discussion and Case Wrap-Up

Heart Team Approach (Tricuspid Valve)
2:15 PM Case Presentation
Steven F. Bolling, Ann Arbor, MI
2:23 PM How I Decide When to Operate on Patients With Isolated Tricuspid Regurgitation and Those With Concomitant Mitral Valve Disease
James S. Gammie, Baltimore, MD

2:33 PM New Interventional Technology for Tricuspid Regurgitation
Paul Soraja, Minneapolis, MN

2:43 PM Discussion and Case Wrap-Up

3:00 PM Break

Heart Team Approach (Mitral Valve Disease)

3:15 PM Case Presentation
Tom C. Nguyen, Houston, TX

3:20 PM When Should an Asymptomatic Patient With Severe Mitral Regurgitation Undergo Intervention?
Patrick T. O’Gara, Boston, MA

3:30 PM Current Trials for Transcatheter Mitral Valve Replacement
Gorav Ailavazdi, Charlottesville, VA

3:40 PM Current Trials for Transcatheter Mitral Valve Repair
Paul Soraja, Minneapolis, MN

3:50 PM My Worst Surgical Mitral Valve Case and How I Got Out of It
Tiron E. David, Toronto, Canada

4:00 PM Discussion and Case Wrap-Up

Heart Team Approach (Congestive Heart Failure)

4:15 PM Preferred Device for Post-Cardiotomy Temporary Support When IABP Is Not Effective: ECMO, Impella, or Tandem Heart
Pavan Atluri, Philadelphia, PA

4:25 PM Preoperative Optimization for Right Ventricular Severe Dysfunction Prior to Cardiac Surgery
Patrick T. O’Gara, Boston, MA

4:35 PM My Worst LVAD Case and How I Got Out of It
Francis D. Pagani, Ann Arbor, MI

4:45 PM Case-Based Scenarios for Choice of Durable Mechanical Support in Heart Failure
Nir Uriel, Chicago, IL

4:55 PM Discussion and Concluding Remarks

1:30 PM – 3:30 PM

Adult Cardiac: Aorta I

MODERATORS: Thomas G. Gleason, Pittsburgh, PA, and T. Brett Reece, Aurora, CO

1:30 PM ABSTRACT: Outcomes of Elective Aortic Root Replacement Procedure in the United States: Analysis of the STS Adult Cardiac Surgery Database
1University of Pennsylvania, Philadelphia, PA, 2Hospital of the University of Pennsylvania, Philadelphia, PA, 3Duke University Medical Center, Durham, NC, 4Cleveland Clinic, OH, 5West Virginia University, Morgantown, WV, 6Johns Hopkins All Children’s Hospital, St Petersburg, FL, 7Duke University, Durham, NC

1:45 PM ABSTRACT: Redo Aortic Valve Replacement in a Patient With Previous Aortic Root Replacement: Avoidance of Full Root Re-replacement on a Routine Basis
I. E. Wengen1, S. Y. Fukuhara2, M. A. Siki1, J. E. Bavaria1
1University of Pennsylvania, Philadelphia, PA, 2Hospital of the University of Pennsylvania, Philadelphia

2:00 PM DEBATE: Optimal Therapy for Failed Bioprosthetic Root Replacement in a 55-Year-Old Man: Redo Root/AVR vs Valve-in-Valve TAVR
Redo Root: Edward P. Chen, Atlanta, GA
Valve-in-Valve TAVR: Keith B. Allen, Kansas City, MO

2:30 PM ABSTRACT: Long-Term Results of Valve-Sparing Aortic Root Replacement: A Comparison Between Middle-Aged and Elderly Patients
Humanitas Clinical and Research Center, Milan, Italy

2:45 PM ABSTRACT: Preoperative Sarcopenia Portends Worse Outcomes After Descending Thoracic Aortic Aneurysm Repair
1McGovern Medical School at UT Health, Houston, TX, 2The University of Texas Health Science Center, Houston

3:00 PM ABSTRACT: Distal Stent Graft-Induced New Entry After Endovascular Repair of Type B Aortic Dissection: Management Strategy, Recurrence, and Long-Term Outcomes
Q. O. Li1, W. G. Ma2, J. Zheng3, S. S. Xu4, J. Zhu5, L. L. Huang6, L. Sun7
1Beijing Anzhen Hospital, China, 2Beijing Anzhen Hospital Capital Medical University, China, 3Beijing Anzhen Hospital, Capital Medical University, and Beijing Institute of Heart, Lung and Blood Vessel Diseases, China

3:15 PM ABSTRACT: Outcome of Stentless Thoracic Endovascular Aortic Repair in Chronic DeBakey IIIb Aneurysm
T. T. Kim1, S. S. Song2, K. N. Lee1, W. Heo1, M. N. Baek3, K. Yoo4, B. N. Cho5
1Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, South Korea, 2Korea Heart Foundation, Seoul

1:30 PM – 2:30 PM

Adult Cardiac: Ischemic

MODERATORS: Richard Lee, St Louis, MO, and Brett C. Sheridan, San Francisco, CA

1:30 PM ABSTRACT: Long-Term Patency of Individual Segments of Different Internal Thoracic Artery Graft Configurations
S. Raza1, J. F. Sabik2, F. Bakaeen1, K. Ravichandren1, B. Tappuni1, M. A. Ahmad1, F. A. Ahmed1, P. L. Houghtaling1, L. G. Svensson1, E. Blackstone1
1Cleveland Clinic, OH, 2University Hospitals Cleveland Medical Center, OH

1:45 PM ABSTRACT: One Is Never Enough: Incremental Value of Three or More Arterial Grafts in Coronary Bypass Grafting—The Effect of Native Coronary Disease
T. A. Schwann1, K. Steinman1, M. B. Yammine1, F. F. Tranbaugh4, M. C. Engoren5, R. R. Bonnell6, K. M. Klein7, R. H. Habib8
1University of Toledo Medical Center, OH, 2American University of Beirut, Lebanon, 3Mount Sinai Hospital, New York, 4Cornell School of Medicine, New York, 5University of Michigan, Ann Arbor, MI, 6The Society of Thoracic Surgeons, Chicago, IL

2:00 PM ABSTRACT: Bilateral Internal Mammary Artery Utilization in Diabetics: Friend or Foe?
T. C. Crawford1, X. N. Zhou2, C. Fraser3, A. Suarez-Pierre4, D. E. Alejo5, C. E. Fonner6, J. Bobbitt7, R. Salenger5, K. E. Wehberg1, C. C. Kwon6, B. S. Taylor6, M. Fiocco8, J. V. Conte1, G. J. Whitman1
1The Johns Hopkins Hospital, Baltimore, MD, 2The Johns Hopkins University School of Medicine, Baltimore, MD, 3Texas Children’s Hospital, Houston, TX, 4John Hopkins Cardiac Surgery, Baltimore, MD, 5University of Minnesota, Minneapolis, MN, 6McGovern Medical School at UT Health, Houston, TX, 7MedStar Union Memorial Hospital, Baltimore, MD, 8Sinai Hospital of Baltimore, MD, 9University of Maryland Medical Center, Baltimore, MD, 10Mount Sinai Hospital, New York, 11University of Texas Health Science Center, Houston, TX, 12University of Toledo Medical Center, OH, 13American University of Beirut, Lebanon

2:15 PM Which Diabetics Should Have Bilateral Internal Mammary Artery Grafting?
Joseph F. Sabik III, Cleveland, OH

2:30 PM ABSTRACT: A Multi-Institutional Analysis of Patients Undergoing Hybrid Coronary Revascularization for Multivessel Coronary Artery Disease
N. M. Ndubai1, M. C. Wernan2, F. P. Sutter2, J. J. DeRose3, P. Teefy4, B. Kiar1, J. McGinn4, T. A. Vassiliades5, H. A. Liberman6, J. D. Puskas7, W. A. Jaber1, M. E. Halkos7
1The Johns Hopkins Hospital, Baltimore, MD, 2The Johns Hopkins University School of Medicine, Baltimore, MD, 3Texas Children’s Hospital, Houston, TX, 4John Hopkins Cardiac Surgery, Baltimore, MD, 5University of Virginia, Charlottesville, VA, 6University of Texas Health Science Center, Houston, TX, 7MedStar Union Memorial Hospital, Baltimore, MD, 8Sinai Hospital of Baltimore, MD, 9University of Maryland Medical Center, Baltimore, MD, 10Mount Sinai Hospital, New York, 11University of Texas Health Science Center, Houston, TX, 12University of Toledo Medical Center, OH, 13American University of Beirut, Lebanon, 14Mount Sinai Hospital, New York, 15Cornell School of Medicine, New York, 16Johns Hopkins School of Medicine, Baltimore, MD, 17University of Maryland Medical Center, Baltimore, MD, 18MedStar Union Memorial Hospital, Baltimore, MD, 19Washington Adventist Hospital, Takoma Park, MD

Which Diabetics Should Have Bilateral Internal Mammary Artery Grafting?
MONDAY, JANUARY 29, 2018

2:45 PM

ABSTRACT: Del Nido Cardiopexia in Adult Coronary Artery Bypass Grafting Surgery

T. Timek¹, C. L. Wilkikes¹, T. A. Beute¹, D. R. Ziazaedeh², R. N. Mattar¹, J. L. Parker¹, M. R. Goehler¹, F. S. Fanning¹, T. Boeve¹, E. T. Murphy¹, J. C. Heiser²

¹Spectrum Health, Grand Rapids, MI, ²Michigan State University College of Human Medicine, Grand Rapids

3:00 PM

ABSTRACT: Coronary Artery Bypass Surgery Compared to Percutaneous Coronary Intervention in Patients Youner Than 50 Years of Age: Long-Term Outcomes

A. M. Shaﬁ¹, A. A. Dhanji¹, A. Habibi², W. I. Awad³

¹Barts Health NHS Trust, London, United Kingdom, ²Castle Hill Hospital, Bradford, United Kingdom, ³St Bartholomew’s Hospital, London, United Kingdom

3:15 PM

Updates on Trials of Percutaneous Coronary Intervention vs Coronary Artery Bypass Grafting Surgery

Stuart Head, Rotterdam, Netherlands*
MONDAY, JANUARY 29, 2018

1:30 PM – 3:30 PM

International Symposium: Confronting Infectious Diseases in Young Adults Undergoing Cardiac Surgery

As increasing numbers of young adults are treated for infectious heart disease (especially as a result of the current opioid epidemic), there are practice gaps in relation to both the ethics of repetitively operating on opioid addicts for infectious heart disease, as well as the optimal approaches for carrying out cardiac surgical procedures on young adults afflicted with such disease. By providing an international perspective on the surgical treatment of infectious heart disease, this symposium will give learners valuable insights into related cardiac surgical strategies utilized in a range of different countries and different scenarios.

Learning Objectives
Upon completion of this activity, participants should be able to:

• Describe optimal approaches for conducting a variety of cardiac surgery procedures on young adults
• Explain central challenges involved in treating infectious heart disease in the young adult population
• Discuss ethical and disease management dilemmas implicated in the treatment of infectious heart disease in young adults

MODERATOR: Juan P. Umarra, Bogotá, Colombia

1:30 PM Introduction
1:40 PM The Scope of Repairing Infective Mitral Valves in the Current Era
Taweeksak Chotivatananopong, Nonthaburi, Thailand
1:55 PM The Impact of Mechanical Support in Infectious Diseases
Enrico R. Ferrari, Lugano, Switzerland
2:10 PM Repairs of the Bicuspid Aortic Valve on the Prognosis of Infected Young Adults
Joseph E. Bavaria, Philadelphia, PA
2:25 PM A Case of Endocarditis With Neurological Complications
Michele De Bonis, Milan, Italy
2:45 PM Redo Transcatheter Interventions for Failing Repairs
Enrico R. Ferrari, Lugano, Switzerland
3:00 PM Diagnosis and Treatment of Thrombosis Affecting the Left and Right Side Valves
Darshan Reddy, Izinga Ridge, South Africa
3:15 PM Diagnosis and Treatment of Aortic Infection Prostheses
Joseph S. Coselli, Houston, TX

21
3:00 PM  Thoracoabdominal Aneurysm: Pearls for Successful Open Repair
Hazim J. Safi, Houston, TX

3:10 PM  Discussion

3:20 PM  Branched Endografting Techniques in the Arch and Thoracoabdominal Aorta
Adam W. Beck, Birmingham, AL

3:30 PM – 4:15 PM  BREAK—Visit Exhibits and Scientific Posters

4:15 PM – 5:15 PM  Adult Cardiac: VAD Transplant/ECMO
MODERATORS: Brett C. Sheridan, San Francisco, CA, and Ibrahim Sultan, Pittsburgh, PA

4:15 PM  ABSTRACT: Risk Factors for All-Cause Mortality Following Post-Cardiomyotomy Venoarterial Extracorporeal Membrane Oxygenation: Analysis of the STS Adult Cardiac Surgery Database
C. L. Tarola1, M. Hamidi1, B. A. Yerokun2, S. N. Zhang2, M. Brennan1, M. Ruel1, D. Nagpal1
1London Health Sciences Center, Canada, 2Duke University, Durham, NC, "University of Ottawa Heart Institute, Canada"

4:27 PM  ABSTRACT: Predictors of Early and Mid-Term Outcomes After Bridge to Left Ventricular Assist Device by Extracorporeal Life Support
D. A. Tsyanenko, E. V. Potapov, F. C. Kaufmann, V. Falk, T. N. Krabatsch, F. Schönrath
Heart Institute Berlin, Germany

4:39 PM  Mini-Access Central Extracorporeal Membrane Oxygenation Cannulation
Ashok S. Babu, Nashville, TN

4:51 PM  ABSTRACT: Severe Tricuspid Valve Regurgitation in Patients Who Undergo Continuous-Flow Left Ventricular Assist Device Implantation: Concomitant Tricuspid Valve Procedures Do Not Reduce Recurrence of Regurgitation or Improve the Rate of Survival
Texas Heart Institute/Baylor College of Medicine, Houston

5:03 PM  ABSTRACT: Combined Heart-Kidney and Heart-Liver Transplantation Provide Improved Immunosuppression of the Cardiac Allograft
A. S. Chou1, A. Habertheuer2, A. A. Chin1, I. Sultan2, M. A. Ackerman2, M. L. Williams1, C. A. Bermudez1, P. Vallabhajosyula2
1University of Pennsylvania, Philadelphia, 2Hospital of the University of Pennsylvania, Perelman School of Medicine, Philadelphia, 3University of Pittsburgh, PA, 4University of Pennsylvania Medical Center, Philadelphia

4:15 PM – 5:15 PM  Ethics Debate: Neighborly Help or Itinerant Surgery?
There is a growing trend of cardiothoracic surgeons operating at remote hospitals. However, postoperatively, these patients are sometimes left in the care of surgeons who are not trained in cardiothoracic surgery. According to the American College of Surgeons, this is unethical. The central question of this Ethics Debate is whether any level of training other than completed cardiothoracic surgical training is acceptable for providing postoperative care when the operating surgeon is not available.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe the requirements for postoperative care when the operating surgeon is not available
• Structure outreach cardiac surgical programs in a way that is ethically acceptable
• Discuss the ethical boundaries for surgery in remote locations

FACILITATOR: Robert M. Sade, Charleston, SC
Pro – General Surgeon Postoperative Coverage Is Acceptable:
James Allen, Marblehead, MA
Con – Only Thoracic Surgeon Postoperative Coverage Is Acceptable:
Alberto Ferreeres, Buenos Aires, Argentina

4:15 PM – 5:15 PM  Research Using the STS National Database
The STS National Database is a valuable tool for both quality improvement and research, and research utilizing the Database has grown exponentially in recent years. Still, many researchers may not be familiar with the different methods available for performing such research. This session will cover several Database-related research programs, including the new Participant User File (PUF) Research Program. In addition, speakers will discuss opportunities to pursue funded research using STS National Database data.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe the process for creating a data request to access data from the STS National Database for research
• Discuss the differences between major data requests and minor data requests
• Explain the process of developing a hypothesis, specific aims, and a research plan
• Discuss research options for longitudinal follow-up or linking to other registries
• List available options, rules, and policies for obtaining investigator access to de-identified patient-level data for analysis at their own institutions

MODERATOR: Felix G. Fernandez, Atlanta, GA

4:15 PM  Introduction to STS Research
Felix G. Fernandez, Atlanta, GA

4:20 PM  PUF Research Program: Policies and Procedures
Kevin W. Lobdell, Charlotte, NC

4:28 PM  PUF Research Program: Early Experience
Robert H. Habib, Chicago, IL

4:36 PM  Investigator Experience With the PUF Research Program
Malcolm M. DeCamp, Chicago, IL

4:43 PM  Access and Publications Research Program
Jeffrey P. Jacobson, St Petersburg, FL

4:51 PM  Longitudinal Follow-Up and Linked Registries Research Program
Matthew L. Williams, Philadelphia, PA

5:01 PM  Panel Discussion

4:15 PM – 5:15 PM  STS Key Contacts: Advocates for Cardiothoracic Surgery
One way that cardiothoracic surgeons can have a direct impact on federal policy affecting the specialty is by participating in the STS Key Contact program, which offers grassroots advocacy opportunities. This session will explain how the program works, discuss the current health care debate, and describe how STS-PAC enhances these advocacy efforts. In addition, experienced Key Contacts will role-play a meeting with a member of Congress, the Key Contact of the Year and other awards will be announced, and attendees will be able to socialize and network.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe how to meet or speak with their members of Congress
• Discuss the Society's legislative priorities
• Explain how to utilize their peer Key Contacts as resources

MODERATOR: Madeleine Stirling, Washington, DC

4:15 PM  Key Contacts Overview
Madeleine Stirling, Washington, DC

4:25 PM  STS-PAC Overview
Frederick L. Grover, Aurora, CO
NEW! The Importance of Physician Documentation in Reimbursement

This session will address how physician documentation drives reimbursement. Attendees will learn how to efficiently and effectively capture the key aspects of patient encounters to accurately communicate why a service was provided, define the services rendered, support the medical necessity, and capture relevant quality elements for an encounter. The session also will highlight the increasing importance of creating an active partnership between cardiothoracic surgeons and hospitals to enable maximal reimbursement for both.

Learning Objectives
Upon completion of this activity, participants should be able to:
- Identify the documentation necessary to support relevant diagnoses, services rendered, medical necessity, and quality measures for a patient encounter
- Describe how hospitals utilize physician documentation for reimbursement
- Explain the role that diagnosis coding plays in hospital reimbursement (CC and MCC)
- Recognize the importance of specificity and identification of services provided in a patient encounter
- Identify coding and reimbursement criteria so that they can identify and capture relevant documentation elements efficiently
- List the global periods relevant to cardiothoracic surgical procedures and the implications those global periods have on reimbursement

MODERATORS: Francis C. Nichols, Rochester, MN, and Scott C. Silvestry, Orlando, FL
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
MEET THE EXPERTS SESSION 1
Management of Esophageal Leaks
FACULTY: Mark S. Allen, Rochester, MN, Ross M. Bremner, Phoenix, AZ, Donald E. Low, Seattle, WA, Mark B. Orringer, Ann Arbor, MI, and Michael J. Weyant, Aurora, CO

This session will explore the diagnosis and management of esophageal leaks following surgical procedures. Through case examples and a panel discussion, attendees will be shown when conservative measures are appropriate and when reoperation is indicated.

Learning Objectives
Upon completion of this activity, participants should be able to:

- Describe current data on the incidence of anastomotic leaks associated with esophagogastric resection
- Assess diagnostic modalities for identifying anastomotic leak or focal conduit necrosis
- Discuss the evolving pattern of treatment options for leaks and regional conduit necrosis
- Outline the short- and long-term ramifications of anastomotic leak following esophageal resection
- Discuss the presentation, diagnosis, and outcomes of esophageal leaks and fistula following surgical procedures

MEET THE EXPERTS SESSION 2
Minimally Invasive and Robotic Mitral Valve Repair
FACULTY: David H. Adams, New York, NY, Joseph A. Dearani, Rochester, MN, James S. Gammie, Baltimore, MD, A. Marc Gillinov, Cleveland, OH, and Joseph Lamelas, Houston, TX

Learning Objectives
Upon completion of this activity, participants should be able to:

- Discuss patient selection issues for different minimally invasive approaches
- Outline different circulatory management and myocardial protection strategies
- Describe when and how to convert to an open procedure
- Identify methods of weaning a patient recovering from ventricular function off ECMO to recovery
- Describe methods for transitioning a patient from ECMO to a stable temporary or permanent platform
- Outline new technologies that can be utilized as adjuncts to the ECMO platform
- Discuss futility in the ECMO platform

MEET THE EXPERTS SESSION 3
Universal Conundrums in ECMO: Tips and Tricks for Veno-Arterial ECMO in Cardiogenic Shock
FACULTY: Robert H. Bartlett, Ann Arbor, MI, Christian A. Bermudez, Philadelphia, PA, David A. D’Alessandro, Boston, MA, David M. McMullan, Seattle, WA, and Jeffrey A. Morgan, Houston, TX

Venoarterial extracorporeal membrane oxygenation (ECMO) is an established platform that provides mechanical pulmonary and circulatory support for patients with cardiogenic shock from multiple etiologies refractory to standard medical therapy. ECMO, unlike definitive mechanical support systems, presents myriad unique therapeutic challenges that require optimization to advance the patient to the next management platform.

This session will focus on the major problems associated with ECMO through four clinical scenarios. An expert panel will delineate how the clinical challenges demonstrated by patients on ECMO are addressed regionally and internationally, and therapeutic tips will be presented for each management platform.

Learning Objectives
Upon completion of this activity, participants should be able to:

- Review postoperative care pathways to facilitate shorter length of hospital stay
- Discuss early and late outcomes for different minimally invasive approaches

MEET THE EXPERTS SESSION 4
Advanced Surgical Techniques in Ischemic Heart Disease
FACULTY: Richard L. Prager, Ann Arbor, MI, John D. Puskas, New York, NY, and Joseph F. Sabik III, Cleveland, OH

This session will focus on advanced techniques in the surgical treatment of ischemic heart disease that routinely can be applied by practicing adult cardiac surgeons. Speakers will present their techniques and tips in a video-rich format, followed by a Q&A with the audience. Best practices in the management of diffuse coronary artery disease, arterial grafting, and off-pump coronary artery bypass grafting (CABG) surgery will be discussed in detail, with a focus on providing attendees with useful skills and technical tips that they can take home to their practices.
Learning Objectives
Upon completion of this activity, participants should be able to:
• Identify the alternative techniques to revascularize a diffusely diseased coronary artery, including full metal jacket
• Recall surgical techniques of all-arterial grafting, including bilateral internal thoracic artery and radial artery combinations
• Explain how to do off-pump CABG safely, reliably, and precisely

MEET THE EXPERTS SESSION 5
How to Be Successful in a Small-to-Mid Size Congenital Heart Program
FACULTY: Petros V. Anagnostopoulos, Madison, WI, S. Adil Husain, San Antonio, TX, Jack L. Myers, Hershey, PA, James S. Tweedell, Cincinnati, OH, and Joseph W. Turek, Iowa City, IA
Small-to-moderate sized congenital heart programs can be successful in achieving optimal outcomes for their patients, but their resources may be limited. This session will provide expert opinion from successful practitioners at small-to-moderate programs that will help attendees learn how to manage limited resources.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Compare patient complexity with program resources
• Identify the complex, high-risk patient that may overutilize scarce resources or require additional expertise not available
• Manage limited resources, including human resources, in order to maximize performance

MEET THE EXPERTS SESSION 6
End-Stage Heart Failure
Mechanical circulatory support is a complex and evolving field. There are certain clinical scenarios for which diverging approaches exist within the ventricular assist device community. Examples include biventricular heart failure in destination therapy populations, left ventricular thrombus, recurrent ventricular dysrhythmias, patients with multiple prior sternotomies, existing mechanical aortic valves, and patients with a history of thrombophilia.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe the best approaches for right ventricular performance assessment and the different options in managing right ventricular dysfunction following durable left ventricular assist device implantation
• Recall the implications, severity, and approaches to left ventricular thrombus in patients undergoing left ventricular assist device implantation, highlighting the limitations and merits of each
• Explain evidence suggesting adverse events associated with in situ mechanical aortic valves in patients undergoing left ventricular assist device implantation and different strategies that can be employed in this setting
• Describe the preoperative, intraoperative, and postoperative strategies to mitigate recurring arrhythmias in patients with refractory ventricular dysrhythmia
• Identify the different strategies employed in implantation procedures for patients with multiple sternotomies

MEET THE EXPERTS SESSION 7
Management of the Small Aortic Root
Standard practice for aortic valve replacement (AVR) aims to use the largest possible valve without enlarging or replacing the root. The literature documents that small valves reduce life expectancy, but measures to alter or replace the aortic root have been underused and actively discouraged because of perceived (and actual) increase in risk. This session aims to identify patients who could benefit from more aggressive surgery and encourage development of the skills to do this safely.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Identify patients at risk for poor outcomes because of small aortic roots
• Explain when aortic root enlargement should be considered and its limitations
• Choose appropriate patients for aortic root replacement to avoid hemodynamic mismatch
• Discuss the importance of surgical valve size for future valve-in-valve options
• Select patients who might be best served by primary transcatheter AVR for hemodynamic reasons
• Describe the principles of sutureless AVR implantation and how to choose appropriate patients for this procedure

MEET THE EXPERTS SESSION 8
Minimally Invasive Esophageal and Pulmonary Procedures, Including Robotics and POEM
FACULTY: Robert J. Cerfolio, New York, NY, and James D. Luketich, Pittsburgh, PA
This session will present novel ways to perform minimally invasive lung surgery robotically, posterior to anterior.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Choose ideal candidates for minimally invasive lung surgery
• Describe optimal methods to perform the posterior approach to minimally invasive surgery, anterior approach to minimally invasive surgery, minimally invasive esophagectomy, and esophageal-gastric anastomosis

7:30 AM – 8:30 AM
HEALTH POLICY FORUM
The Changing Medicare Quality Reporting and Payment Landscape
The Medicare Access and CHIP Reauthorization Act changed the way physicians are paid under the Medicare program. As the Centers for Medicare & Medicaid Services (CMS) works to implement provisions of the new policy over the next few years, cardiothoracic surgeons will need to stay apprised of changes in reporting requirements and performance benchmarks. At this session, attendees will learn how they can be successful under either aspect of the Medicare Quality Payment Program: the Merit-Based Incentive Payment System (MIPS) or Alternative Payment Models (APMs).

Learning Objectives
Upon completion of this activity, participants should be able to:
• List new quality reporting requirements under MIPS
• State new advancing care information reporting requirements under MIPS
• Describe new clinical practice improvement reporting requirements under MIPS
• Recognize how to successfully participate in an APM that prioritizes value over volume of services
• Discuss what STS is doing to advocate for cardiothoracic surgeons participating in these programs
9:00 AM – 12:00 PM

**General Session II**

**MODERATORS:** Richard L. Prager, Ann Arbor, MI, and Joseph F. Sabik III, Cleveland, OH

1:00 PM

**ABSTRACT:** Tricuspid Valve Reconstruction for Infective Endocarditis


Cleveland Clinic, OH

1:15 PM

**ABSTRACT:** Contemporary Surgical Management of Hypertrophic Cardiomyopathy in the United States


1West Virginia University, Morgantown, 2Duke University, Durham, NC, 3Mayo Clinic, Rochester, MN, 4Cleveland Clinic, OH

1:30 PM

**ABSTRACT:** Model for End-Stage Liver Disease Score Independently Predicts Mortality in Cardiac Surgery


1University of Virginia, Charlottesville, 2University of Virginia Health System, Charlottesville, 3Virginia Cardiac Services Quality Initiative, Virginia Beach, 4Cardiac, Vascular & Thoracic Surgery Associates, Falls Church, 5Virginia Commonwealth University, Richmond, 6Eastern Virginia Medical School, Norfolk

2:15 PM

**ABSTRACT:** Transcatheter Mitral Valve Replacement With LAMPOON Procedure


1Vilnius University, Lithuania, 2Pittsburgh, PA

2:30 PM

**ABSTRACT:** Evolving Technique for Pericardectomy: Safety, On-Pump Surgery, and Complete Resection


1Cleveland Clinic, OH, 2Annita Institute of Medical Sciences, Kochi, India

2:45 PM

**ABSTRACT:** Ideal Therapeutic Approach for Mitral Valve Prolapse in Patients With Previous Cardiac Surgery: Open vs MitraClip Repair


1Mayo Clinic, Rochester, MN, 2University of Ottawa Heart Institute, Canada
**TUESDAY, JANUARY 30, 2018**

**2:30 PM**  
**DEBATE:** Transcatheter vs Minimally Invasive Mitral Valve Procedures  
Transcatheter Mitral Valve Repair and Replacement Is Our Future:  
Michael A. Borger, New York, NY  
Minimally Invasive Mitral Valve Procedures Will Prevail  
Over Transcatheter Techniques:  
James S. Gammie, Baltimore, MD

**1:00 PM – 3:00 PM**  
**Congenital: Pediatric Congenital II**  
**MODERATORS:** Michael E. Mitchell, Milwaukee, WI, and Christian Pizarro, Wilmington, DE

**1:00 PM**  
**ABSTRACT:** Outcomes After Bidirectional Cavopulmonary Shunt in Infants Less Than 120 Days Old  
N. Ota, T. A. Asou, Y. Takeda, M. Kobayashi, H. Okada, Y. Onakatomi  
Yokohama Kanagawa Children’s Medical Center, Japan

**1:15 PM**  
**ABSTRACT:** Optimal Timing of Stage 2 Palliation for Hypoplastic Left Heart Syndrome  
Robert B. Jaquiss, Dallas, TX

**1:30 PM**  
**ABSTRACT:** External Stenting for Vascular Compression Syndrome  
M. Ando  
Sakakibara Heart Institute, Tokyo, Japan

**1:45 PM**  
**ABSTRACT:** Characterizing Outcomes of Isolated and Complex Complete Atrioventricular Septal Defect Repair: An All-Encompassing Experience  
Texas Children's Hospital/Baylor College of Medicine, Houston

**2:00 PM**  
**ABSTRACT:** Detachment of the Tricuspid Valve in Perimembranous Ventricular Septal Defect Closure Does Not Impact Tricuspid Valve Function at Long-Term Follow-Up  
1Texas Children’s Hospital, Houston, 2Texas Children’s Hospital, Houston, 3The Johns Hopkins Hospital, Baltimore, MD, 4The Johns Hopkins University School of Medicine, Baltimore, MD, 5The Johns Hopkins University School of Medicine, Newnortown Square, PA

**2:15 PM**  
**ABSTRACT:** Mid-Term Outcomes of Common Atrioventricular Valve Repair in Patients With Single Ventricular Physiology  
H. F. Fengpu, S. A. Li, M. Kai, Z. Sen, Q. Lei, Q. Chen  
National Center for Cardiovascular Diseases, Beijing Fuwai Hospital, Chinese Academy of Medical Sciences, and Peking Union Medical College

**2:30 PM**  
**ABSTRACT:** Near-Normothermic Goal-Directed Innominuate and Femoral Perfusion for Norwood Palliation of Hypoplastic Left Heart Syndrome  
Children’s Hospital and Medical College of Wisconsin, Milwaukee

**2:45 PM**  
**ABSTRACT:** Surgical Management and Outcomes of Ebstein Anomaly in Neonates and Infants: An Analysis of the STS Congenital Heart Surgery Database  
1Mayo Clinic, Rochester, MN, 2University of Texas Southwestern Medical Center/Children’s Medical Center Dallas, 3Emory University, Alfred I. duPont Hospital for Children, Wilmington, DE, 4Le Bonheur Children’s Hospital, Memphis, TN, 5University of Southern California, Los Angeles, 6University of Michigan, Ann Arbor, 7Duke University, Durham, NC, 8Duke University Medical Center, Durham, NC, 9Duke Clinical Research Institute, Durham, NC, 10Johns Hopkins All Children’s Hospital, St Petersburg, FL, 11The Johns Hopkins University School of Medicine, Newnortown Square, PA

**1:00 PM – 3:00 PM**  
**EACTS @ STS: Bicuspid Aortic Valve Repair With Aortic Valve Insufficiency and Proximal Aortic Aneurysm Repair**  
In this session, presented by STS and the European Association for Cardio-Thoracic Surgery (EACTS) Vascular Domain, international experts will examine the treatment options available for bicuspid aortic valve (BAV) disease associated with pure aortic valve insufficiency (AI) and root dilation. Technical considerations, conduct of operation, surgical decision making, and the most up-to-date data will be presented.

**Learning Objectives**  
Upon completion of this activity, participants should be able to:  
• Describe the reconstructive options available for repair of bicuspid aortic valve insufficiency with aortic root aneurysm  
• Identify all bicuspid aortic valve phenotypes and consider which surgical treatment should be utilized

**MODERATORS:** Joseph E. Bavaria, Philadelphia, PA, and Ruggero De Paulis, Rome, Italy*

**1:00 PM**  
Introduction: BAV Repair With Proximal Aortic Aneurysm: Essential Controversies Revealed  
Joseph E. Bavaria, Philadelphia, PA

**1:12 PM**  
**ABSTRACT:** David V Valve-Sparing Aortic Root Replacement Provides Equivalent Long-Term Outcomes in Patients With Bicuspid and Trileaflet Aortic Valves  
M. O. Kayatta, B. G. Leshnower, L. McPherson, J. Binongo, C. Zhang, Y. Q. Lasanajak, E. P. Chen  
Emory University, Atlanta, GA

**1:24 PM**  
**DEBATE:** What is the Best Operation for BAV AI With Root Aneurysm?  
Remodeling with External Subannular Ring:  
Emmanuel Lansac, Paris, France  
Reimplantation Root Procedure:  
Michael P. Fischbein, Stanford, CA  
**ABSTRACT:** Predictors of Long-Term Functional Outcomes in Type I Bicuspid Aortic Valve Repair  
A. Haberthuer1, C. Komlo2, J. E. Bavaria2, M. A. Siki2, M. Freas1, R. C. Miliewski1, N. Desai1, W. Y. Szeto2, F. Vallabhajosyula2  
1Hospital of the University of Pennsylvania, Philadelphia, 2University of Pennsylvania, Philadelphia

*Invited
NEW! STS/ISHLT Joint Symposium: LVAD Therapy in 2018—Worldwide Perspectives

This joint symposium between STS and the International Society for Heart and Lung Transplantation will feature contemporary experience with left ventricular assist device (LVAD) therapy around the globe. The latest clinical trials and registry data will be presented, and areas of ongoing advanced research will be highlighted. This session also will cover innovative approaches to LVAD therapy, including minimally invasive implantation and LVAD decommissioning.

Learning Objectives

Upon completion of this activity, participants should be able to:

- Explain the results of recent multicenter clinical trials of LVAD therapy, including survival and expected complications of the most commonly used pumps
- Describe the data provided by international LVAD registries and further questions that may be addressed through registry data
- Discuss the advantages and disadvantages of minimally invasive LVAD implantation and minimally invasive LVAD decommissioning
- Identify differences and commonalities among European, Asian, and American experiences with LVAD therapy

MODERATORS: Jiri Maly, Prague, Czech Republic, and Gabriel Sayer, Chicago, IL

1:00 PM – 3:00 PM

On the Horizon: Recent LVAD Clinical Trial Results and Emerging Data

Nir Uriel, Chicago, IL

1:15 PM

The HeartMate 3 LVAD in Europe: CE Mark and the ELEVATE Registry

Finn Gustafsson, Copenhagen, Denmark

1:30 PM

IMACS: What Can Registries Teach Us About LVADs?

James K. Kirklin, Birmingham, AL

1:45 PM

Panel Discussion

2:00 PM

Minimally Invasive Approach to LVAD Implantation

Nahush A. Mokadam, Seattle, WA

2:15 PM

Alternative Anticoagulation Strategies in LVAD Patients

Ivan Netuka, Prague, Czech Republic

2:30 PM

Durable Biventricular Support Options in 2018

Gert D. Pretorius, San Diego, CA

2:45 PM

Panel Discussion

1:00 PM – 3:00 PM

General Thoracic: Lung Cancer II

MODERATORS: Lisa M. Brown, Sacramento, CA, and Robert A. Meguid, Aurora, CO

1:00 PM

Database Studies: Are They Worth the Paper They’re Printed On?

Felix G. Fernandez, Atlanta, GA

1:15 PM

ABSTRACT: Richard E. Clark Memorial Paper for General Thoracic Surgery: Use of Invasive Mediastinal Staging for Lung Cancer by STS National Database Participants


1NorthShore University Health System, Evanston, IL, 2Saint Thomas Healthcare, Nashville, TN, 3University of Washington, Seattle, 4Duke Clinical Research Institute, Durham, NC, 5Duke University Medical Center, Durham, NC, 6University of Washington Medical Center, Seattle, 7Duke University Medical Center, Durham, NC, 8University of Washington, Seattle, 9Duke University Medical Center, Durham, NC

1:30 PM

ABSTRACT: Significant Variation in Compliance With Lung Cancer Quality Measures Exists Across US Hospitals

D. D. Odel1, J. Feinglass2, K. E. Engelhardt1, A. Bharat1, S. Meyerson1, K. Y. Bilimoria1, M. M. DeCamp2

1Northwestern University, Chicago, IL, 2Northwestern Memorial Hospital, Chicago, IL

1:45 PM

ABSTRACT: Defining Proficiency for STS National Database Participants Performing Thoracoscopic Lobectomy


1Washington University, St Louis, 2University of Washington Medical Center, Seattle, 3Rush University Medical Center, Chicago, IL, 4CNY Thoracic Surgery, PC, Jamesville, NY, 5Massachusetts General Hospital, Boston, 6University of California, Davis Medical Center, Sacramento, 7Medical City Dallas, TX, 8St Louis University, MO, 9Beaumont, Auburn Hills, MI, 10The Johns Hopkins University, Baltimore, MD, 11University of Michigan, Ann Arbor, 12Vanderbilt University Medical Center, Nashville, TN, 13Emory University, Atlanta, GA, 14Cleveland Clinic, OH, 15Duke Clinical Research Institute, Durham, NC

2:00 PM

ABSTRACT: Postoperative Radiation Therapy Does Not Improve Survival When Added to Chemotherapy in Patients With Clinical N0, Pathological N2 Non–Small-Cell Lung Cancer After Resection

J. A. Drake1, D. C. Portnoy2, B. Wexler2

1University of Tennessee Health Science Center, Memphis, 2University of Tennessee/Vest Cancer Center, Memphis

2:15 PM

ABSTRACT: The Role of Lymph Node Dissection in Carcinoids: A National Cancer Database Analysis


1University of Arizona, Tucson, 2Weill Cornell Medical College, NY

2:30 PM

ABSTRACT: Is There a Role for Surgical Resection in Early Stage Sarcomatoid or Biphasic Mesothelioma? Result of a Propensity-Matched Analysis

S. S. Kim, L. L. Garland, C. C. Hsu

University of Arizona, Tucson

2:45 PM

ABSTRACT: Differences and Quality Indicators in Low- and High-Performing STS General Thoracic Surgery Database Participants

B. C. Tong1, S. Kim2, A. S. Kosinski3, S. Vemulapalli4, T. D’Amico1, M. G. Hartwig1, D. Harpole3, J. A. Klapper1, M. A. Daneshmand1, M. W. Onaitis2

1Duke University Medical Center, Durham, NC, 2Duke Clinical Research Institute, Durham, NC, 3University of California, San Diego
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title and Details</th>
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<tr>
<td>1:00 pm</td>
<td><strong>General Thoracic: Mediastinal/Pulmonary</strong></td>
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<td>MODERATORS: Usman Ahmad, Cleveland, OH, and Christopher R. Morse, Boston, MA</td>
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| 1:00 pm    | **Abstract:** Short-Term Outcomes of Tracheal Resection in the STS General Thoracic Surgery Database  
B. P. Stanifer¹, A. C. Andrei², S. Meyerson³, D. D. Odell², A. Bharat⁴, M. Liu⁵, M. M. DeCamp¹  
¹Northwestern Memorial Hospital, Chicago, IL, ²Northwestern University, Chicago, IL |
| 1:15 pm    | **Abstract:** Comparison of Neoadjuvant Chemotherapy Followed by Surgery to Surgery Alone for Advanced Thymic Malignancies: A Propensity Score-Matching Analysis Based on a Multicenter Database  
S. Park¹, K. Hyun¹, Y. Hwang¹, H. Lee¹, I. Park¹, Y. T. Kim¹, S. S. Hwang¹, G. Lee¹, S. Choi¹, H. Kim¹, Y. Kim¹, D. Kim¹, S. Park¹, J. H. Cho¹, H. Kim¹, Y. Y. Choi¹, J. Kim¹, J. Zo¹, Y. M. Shim¹, G. Byun¹, C. Lee¹, J. Lee¹, D. Kim¹, H. C. Paik¹, K. Y. Chung¹, C. Kang¹  
¹Seoul National University Hospital, South Korea, ²Ulsan University Hospital, South Korea, ³Asan Medical Center, Seoul, South Korea, ⁴Samsung Medical Center, Seoul, South Korea, ⁵Yonsei University College of Medicine, Seoul, South Korea |
| 1:30 pm    | **Abstract:** Induction Therapy Does Not Improve Survival in Patients With Large Thymomas  
D. Z. Liou¹, N. S. Lui², D. Ramakrishnan¹, J. B. Shrager¹, L. M. Backhus¹, M. F. Berry¹  
¹Stanford University, CA, ²Stanford University Medical Center, Palo Alto, CA |
| 1:45 pm    | **Abstract:** Accumulated Frailty Characteristics Predict Postoperative Respiratory Failure in Patients With Severe Tracheobronchomalacia Undergoing Tracheobronchoplasty  
D. H. Buitrago¹, D. E. Alape¹, J. L. Wilson¹, M. Panikhi¹, A. Majid¹, D. H. Kim¹, S. P. Gangadharan¹  
¹Beth Israel Deaconess Medical Center, Boston, ²Harvard Medical School, Boston, MA |
| 2:00 pm    | **Abstract:** Left Cardiac Sympathetic Denervation for Management of Long QT Syndrome: Single-Center 7-Year Experience  
A. C. Antonopoulos, D. Patrini, S. A. Mitsos, M. M. Scarr¹, M. P. Hayward, R. George, D. R. Lawrence, N. T. Panagiotopoulos  
¹University College London Hospitals NHS Foundation Trust, United Kingdom |
| 2:15 pm    | **Abstract:** Nerve-Sparing Surgery in Advanced Stage Thymomas  
V. Aprile¹, P. P. Bertoglio², S. S. Korasidis³, D. D. Bacchin³, M. Lucchi¹, A. A. Muzzii¹  
¹University of Pisa, Italy, ²Sacro Cuore Don Calabria Research Hospital Cancer Care Centre, Verona, Italy, ³AOU Pisa, Italy |
| 2:30 pm    | Robotic Thymectomy: How I Do It  
Inderpal S. Sarkaria, New York, NY |
| 2:45 pm    | Surgery for Myasthenia Gravis  
Joshua R. Sonett, New York, NY |
| 1:00 pm    | **Patient Safety Symposium: Biases and Errors—Why We Do What We Do**                       |
|            | MODERATORS: W. Chance Conner, San Antonio, TX, and Michael S. Kent, Boston, MA            |
| 1:00 pm    | Introduction  
W. Chance Conner, San Antonio, TX, and Michael S. Kent, Boston, MA |
| 1:15 pm    | Surgical Practice and Evidence-Based Medicine: Why the Incongruity?  
Kevin W. Lobdell, Charlotte, NC |
| 1:45 pm    | How Do We Make the Diagnosis? Biases and Heuristics in Medicine  
Geoffrey Norman, Hamilton, Canada |
| 2:15 pm    | Cognition in the Wild (of the Operating Room)  
David Woods, Columbus, OH* |
| 2:45 pm    | Panel Discussion/Q&A  
Break |
| 3:00 pm    | Break |
| 3:30 pm    | Break Root Cause Analysis: Is There a Right Way?  
Juan A. Sanchez, Baltimore, MD |
| 4:00 pm    | Errors and How We Can Learn From Them  
James Bagian, Ann Arbor, MI* |
| 4:30 pm    | Panel Discussion/Q&A  
Break—Visit Exhibits and Scientific Posters |
3:30 PM – 4:30 PM
Cardiothoracic Surgical Education

MODERATORS: David D. Odell, Chicago, IL, and Rishindra M. Reddy, Ann Arbor, MI

3:30 PM
ABSTRACT: Lessons Learned from a Multicenter Prospective Randomized Study of Skill Acquisition in Cardiovascular Randomized Surgery Using a Low-Fidelity Simulation Platform
J. R. Spratt¹, M. E. Brunsvold¹, D. Joyce², T. C. Nguyen³, M. B. Antonoff³, G. N. Loo³
¹University of Minnesota, Minneapolis, ²Mayo Clinic, Rochester, MN, ³Memorial Hermann-Texas Medical Center, Houston, ⁴The University of Texas MD Anderson Cancer Center, Houston, ⁵Texas Heart Institute/Baylor College of Medicine, Houston

4:06 PM
ABSTRACT: The Current State of Mentorship in Cardiothoracic Surgery Training: Results of the TSQA/TSRA In-Training Exam Survey
E. H. Stephens¹, A. B. Goldstone², A. G. Fiedler³, P. N. Vardas⁴, G. S. Pattakos⁵, X. Lou⁶, P. Chen⁷, V. Tchantchaleishvili⁷
¹Columbia University Medical Center, New York, NY, ²University of Pennsylvania, Philadelphia, ³Massachusetts General Hospital and Harvard Medical School, Boston, ⁴Indiana University School of Medicine, Indianapolis, ⁵Texas Heart Institute/Baylor College of Medicine, Houston, ⁶Emory University, Atlanta, GA, ⁷Baylor College of Medicine, Houston, TX, ⁸Mayo Clinic, Rochester, MN

3:42 PM
ABSTRACT: Role of Social Media in Mentorship: A Comparative Analysis of Cardiothoracic Surgery and Other Surgical Specialties
J. Luc¹, N. L. Stamp¹, M. B. Antonoff³
¹University of Alberta, Edmonton, Canada, ²Fiona Stanley Hospital, Murdoch, Australia, ³The University of Texas MD Anderson Cancer Center, Houston

4:06 PM
ABSTRACT: Systematic Development, Implementation and Evaluation of an Annual Hands-on Educational Program for Minimally Invasive Cardiovascular Surgery
E. O. Ebunlomo¹, M. M. Lazarus¹, T. E. MacGillivray¹, C. S. Green McClennon¹, K. F. Stein¹, B. A. Peace¹, M. K. Ramchandani¹
¹University of Alberta, Edmonton, Canada, ²Fiona Stanley Hospital, Murdoch, Australia

4:18 PM
ABSTRACT: Development and Initial Validation of a Cervical Esophagogastric Anomalosis Simulator
M. Orringer¹, D. R. Hennigar², J. Lin¹, D. M. Rooney¹
¹University of Michigan, Ann Arbor, ²DRH Consulting, Ann Arbor, MI

3:30 PM – 5:30 PM
Adult Cardiac: Aorta II

MODERATORS: Jehangir J. Appoo, Calgary, Canada, and Edward P. Chen, Atlanta, GA

3:30 PM
ABSTRACT: Early Clinical Outcomes of Hybrid Aortic Arch and Frozen Elephant Trunk Reconstruction With the Thoraflex Hybrid Graft: A Multicenter Experience From the Canadian Thoracic Aortic Collaborative
M. Chu¹, L. A. Dubois¹, K. L. Losenno¹, P. M. Jones¹, M. Ouzounian¹, R. Whitlock¹, F. Dagenais¹, M. Boodhwani¹, G. N. Bhattacharja¹, A. A. Poostizadeh¹, Z. I. Pozeg¹, M. C. Moon¹, B. Kaji¹, M. D. Peterson¹
¹Western University, London Health Sciences Centre, Canada, ²Western University, London, Canada, ³University of Toronto, Canada, ⁴Population Health Research Institute, Hamilton, Canada, ⁵Institut Universitaire de Cardiologie et Pneumologie de Quebec, Canada, ⁶University of Ottawa Heart Institute, Canada, ⁷KGH, Kelowna, Canada, ⁸St Boniface Hospital, University of Manitoba, Winnipeg, Canada, ⁹University of Alberta, Edmonton, Canada, ²⁰St Michael’s Hospital, Toronto, Canada

3:45 PM
ABSTRACT: Salvage Coronary Artery Bypass Predicts Increased Mortality During Aortic Root Surgery
W. B. Keeling¹, B. G. Leshmover, C. W. Stouffer, J. Binongo, E. P. Chen
Emory University, Atlanta, GA

4:00 PM
ABSTRACT: Clinical Value of Computational Fluid Dynamics in the Management of Aortic Pathologies: Looking Beyond the Experimental Application
D. Calceterra¹, L. A. Shrestha¹, K. M. Harris¹, S. C. Vigmoustad¹, J. J. Manunga², K. R. Parekh³, M. Ricci³
¹University of Iowa, Iowa City, ²Minneapolis Heart Foundation at Abbott Northwestern Hospital, MN, ³University of Iowa Hospital & Clinics, Iowa City, ⁴University of New Mexico, Albuquerque

4:15 PM
ABSTRACT: Residual Tears in the Arch Vessel Is a Potential Risk Factor for Major Adverse Aortic Events After Acute DeBakey Type I Aortic Dissection Repair
W. Hoo¹, S. Song¹, K. Lee¹, T. Kim¹, M. Baek¹, K. Yoo¹, B. Cho²
¹Yonsei University, Gangnam Severance Hospital, Seoul, South Korea, ²Inje University, Iljum Severance Hospital, South Korea

4:30 PM
ABSTRACT: Development and Initial Validation of a Cervical Esophagogastric Anomalosis Simulator
M. Orringer¹, D. R. Hennigar², J. Lin¹, D. M. Rooney¹
¹University of Michigan, Ann Arbor, ²DRH Consulting, Ann Arbor, MI

3:30 PM – 5:30 PM
DEBATE: 55-Year-Old Patient Presenting With Acute Type A Aortic Dissection With Hemiplegia
Aggressive Immediate Intervention: Thomas G. Gleason, Pittsburgh, PA
Expectant Management and Delayed Intervention: Anthony L. Estrera, Houston, TX

5:00 PM
ABSTRACT: The Role of Multilayer Flow Modulator Stents in the Endovascular Treatment of Aortic Dissection: A Single-Center Experience
V. Costache¹, D. M. Dorobantu², A. D. Costache², C. M. Goia³, O. I. Stru⁴, R. A. White²
¹Polişano European Hospital, Sibiu, Romania, ²Institute for Cardiovascular Diseases CC Iliacu, Bucharest, Romania, ³Lucian Blaga University, Sibiu, Romania, ⁴MemorialCare Heart & Vascular Institute, Long Beach, CA

5:15 PM
ABSTRACT: Axillary vs Femoral Cannulation in Acute Type A Aortic Dissection: An International Consortium Report
O. Preventza¹, D. Tian², T. D. Yan³, S. A. LeMaire³, J. S. Coselli³
¹Baylor College of Medicine, Houston, TX, ²International Aortic Arch Surgery Study Group, Macquarie Park, Australia, ³Royal Prince Alfred Hospital, Sydney, Australia
**TUESDAY, JANUARY 30, 2018**

**4:00 PM**

**MODERATORS:** Ibrahim Sultan, Pittsburgh, PA, and Wilson Y. Szeto, Philadelphia, PA

**ABSTRACT:** Evolving Trends in Aortic Valve Replacement: A Statewide Experience

- K. M. Kim
- F. L. Shannon
- G. Gaone
- S. C. Lail
- S. N. Batra
- T. Bovee
- A. Delucia
- J. J. Kelly
- P. F. Theurer
- G. Deeb
- R. L. Prager

1. University of Michigan, Ann Arbor
2. Beaumont Cardiovascular Surgery, Royal Oak, MI
3. Henry Ford Hospital, Detroit, MI
4. Munson Medical Center, Traverse City, MI
5. St. John Hospital, Detroit, MI
6. Spectrum Health, Grand Rapids, MI
7. Bronson Methodist Hospital, Kalamazoo, MI
8. University of Michigan Health System, Ann Arbor

**4:15 PM**

**MODERATORS:** Transcatheter Aortic Valve Replacement for Previous Mitral Valve Repair or Replacement Surgery: Results From the STS/ACC Transcatheter Valve Therapy (TVT) Registry

- D. G. Cervantes
- J. J. Kelly
- S. Vemulapalli
- P. Manandhar
- J. Forcillo
- M. J. Mack
- D. R. Holmes
- D. Cohen
- A. J. Kirtane
- S. K. Kodali
- M. B. Leon
- V. C. Babaliaros
- S. C. Malaisrie
- S. R. Kapadia
- M. Reardon
- T. G. Gleason
- E. Holper
- J. E. Bavaria
- H. C. Herrmann
- W. Y. Szeto
- J. D. Carroll
- V. H. Thourani

1. Emory University, Atlanta, GA
2. Duke Clinical Research Institute, Durham, NC
3. Duke University, Durham, NC
4. The Heart Hospital Baylor Plano, TX
5. Mayo Clinic, Rochester, MN
6. Saint Luke's Mid America Heart Institute, Kansas City, MO
7. Columbia University, New York, NY
8. Columbia University College of Physicians and Surgeons, New York, NY
9. Northwestern Medicine, Chicago, IL
10. Cleveland Clinic, OH
11. Houston Methodist Hospital, TX
12. University of Pittsburgh, PA
14. University of Colorado Denver, Aurora

**4:45 PM**

**ABSTRACT:** Geometric Changes in the Aortic Root Complex With Annular Stabilization Techniques in Type I Bicuspid Aortic Valve Repair: Valve-Sparing Root Reimplantation vs Subcommissural Annulo-plasty/External Subannular Aortic Ring

- H. A. Ko
- J. E. Bavaria
- R. N. Shah
- L. F. Al Ghofaily
- C. Komlo
- J. G. Augoustides
- M. A. Siki
- N. Desai
- A. Habertheuer
- R. C. Milewski
- M. Freas
- W. Y. Szeto
- P. Vallabhajosyula

1. University of Pennsylvania, Philadelphia
2. Hospital of the University of Pennsylvania, Philadelphia

**5:00 PM**

**DEBATE:** Severe Symptomatic Aortic Insufficiency in a 50-Year-Old Patient With Non-Aneurysmal Bicuspid Aortic Valve

**Isolated Valve Repair:**

- Munir Boodhwani, Ottawa, Canada

**Mechanical Aortic Valve Replacement:**

- Ibrahim Sultan, Pittsburgh, PA

**Bioprosthesis Aortic Valve Replacement:**

- Michael J. Reardon, Houston, TX

**5:30 PM – 5:30 PM**

**Advanced Therapies for End-Stage Cardiopulmonary Disease**

The successful use of durable mechanical circulatory support (MCS) requires careful patient selection, infrastructure with specialized knowledge, and an institutional commitment. This course is an interactive and didactic session presented by leading authorities on practice recommendations regarding patient selection, infrastructure building, and surgical techniques in the field of durable MCS. Clinical practice guidelines from major societies and regulatory agencies will be covered, along with results of recent large-scale clinical trials. There will be ample time for audience questions on this complex and rapidly evolving field.

**Learning Objectives**

Upon completion of this activity, participants should be able to:

- Describe the impact of preoperative variables on durable ventricular assist device (VAD) outcomes, including the use of temporary MCS, vasoconstrictors, mechanical ventilation, and evidence of end organ injury
- Explain the roles of various MCS team members, including VAD coordinators, data collection personnel, occupational and physical therapists, social workers, clinical psychologists, financial specialists, heart failure cardiologists, and surgeons
- Discuss the essentials of maintaining and documenting competence of each of these individuals with respect to MCS, including the certification requirements of various regulatory agencies
- Explain the economics of MCS programs, including potential revenue streams and estimated operational costs
- Recognize the various surgical techniques employed in the MOMENTUM 3 clinical trial with an emphasis on measures that were associated with improved quality

**MODERATORS:** Jonathan W. Haft, Ann Arbor, MI, and Bryan A. Whiston, Columbus, OH

**3:30 PM**

**Introduction**

**3:35 PM**

**DEBATE:** A Robust Shock/Temporary MCS System Can Successfully Augment a Growing VAD Program

**Pro:**

- Pavan Atluri, Philadelphia, PA

**Con:**

- Ashish Shah, Nashville, TN

**3:55 PM**

**Discussion**

**4:05 PM**

**VAD Team Roles and Responsibilities**

- Simon Maltais, Nashville, TN

**4:20 PM**

**VAD Economics**

- Michael A. Acker, Philadelphia, PA

**4:35 PM**

**VAD Compliance and Certification**

- Michael F. McGrath, Norfolk, VA

**4:50 PM**

**How to Grow a VAD Program**

- Scott C. Silvestry, St Louis, MO

**5:05 PM**

**MOMENTUM 3: Surgical Techniques in HeartMate 3 That Can Impact Quality**

- Chris T. Salerno, Carmel, IN

**5:20 PM**

**Discussion**
5:15 pm
Congenital: Pediatric Congenital III
MODERATORS: S. Adi Husain, San Antonio, TX, and Kirk R. Kanter, Atlanta, GA*

3:30 PM
ABSTRACT: Beating Heart Root Harvesting for En Bloc Rotation of the Conotruncus
T. Sologashvili1, M. Beghetti1, Y. Aggoun1, R. Pretre2, P. Myers1
1Geneva University Hospitals, Switzerland, 2CHUV, Lausanne, Switzerland

3:45 PM
ABSTRACT: Late Results of Half-Turned Truncal Switch Operation for Transposition of the Great Arteries With Left Ventricular Outflow Obstruction
Kyoto Prefectural University of Medicine, Japan

4:00 PM
ABSTRACT: Senning With Aortic Translocation, Anatomic Repair for Congenitally Corrected Transposition With Ventricular Septal Defect, and Pulmonic Stenosis
V. K. Tam, E. A. Erez, V. A. Sebastian, L. M. Roten, H. Nikaidoh
Cook Children's Medical Center, Fort Worth, TX

4:15 PM
ABSTRACT: Long-Term Outcomes of Coarctation Repair via Left Thoracotomy
M. R. Gropler1, B. S. Marino2, M. R. Carr2, O. Eltayeb2, M. C. Monge2, C. L. Backer2
1Washington University in St Louis College of Medicine, MO, 2Ann & Robert H. Lurie Children's Hospital of Chicago, IL

4:30 PM
ABSTRACT: Extra-Anatomic Bypass for Complex Adult Coarctation With Distal Arch Aneurysm and Anomalous Left Subclavian Artery
Massachusetts General Hospital, Boston

4:45 PM
ABSTRACT: Posterior Leaflet Augmentation for Mitral Valve Regurgitation in Children: A Standardized Approach
Bambino Gesù Children's Hospital, Rome, Italy

5:00 PM
ABSTRACT: Tetralogy of Fallot Repair in Developing Countries: Results From the International Quality Improvement Collaborative
1Fundacion Cardio-Infantil, Bogota, Colombia, 2William Novick Global Cardiac Alliance, University of Tennessee Health Science Center, Memphis, 3Madras Medical Mission, Chennai, India, 4Armed Forces Institute of Cardiology, National Institute of Heart Disease, Rawalpindi, Pakistan, 5Amrita Institute of Medical Science, Kerala, India, 6Hospital Garrahan, Buenos Aires, Argentina, 7Frontier Lifeline & Dr.K.M.Cherian Heart Foundation, Chennai, India, 8Hospital da Criança e Maternidade São José de Rio Preto, Brazil, 9Shanghai Children's Medical Center, China, 10Boston Children's Hospital, MA, 11Children's Hospital, Ho Chi Minh City, Vietnam, 12Star Hospital, Hyderabad, India

5:15 PM
ABSTRACT: Symptomatic Tetralogy of Fallot in the First 2 Months of Life: Comparison Between Repair vs Shunt
Y. M. Menaisi
Cairo University, Mohandesen, Egypt

3:30 PM – 5:30 PM
ESTS @ STS: Controversial Issues in General Thoracic Surgery—Perspectives From Europe and North America

Level 1 evidence is often missing in thoracic surgical practice due to a lack of randomized controlled trials. Standard treatment, therefore, may vary between continents, and controversies in management persist. The aim of this session is to compare the current practice in four areas of general thoracic surgery between Europe and North America. The actual outcomes in these domains may not fit the ideal patient outcomes on each continent.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Identify the tumor types for which pulmonary metastectomy is a reasonable option
• Recognize that mesothelioma patients are best treated within the context of a clinical trial at a high-volume center
• Discuss the role of surgery in patients with very limited extent small cell lung cancer
• Describe the management of chest wall malignancies and options for reconstruction

MODERATORS: Janet P. Edwards, Calgary, Canada, and Kostas Papagiannopoulos, Leeds, United Kingdom

3:30 PM
Surgical Management of Pulmonary Metastases: The European Perspective
Tom Treasure, London, United Kingdom

3:40 PM
Surgical Management of Pulmonary Metastases: The North American Perspective
Mark W. Onaitis, La Jolla, CA

3:50 PM
Panel Discussion/Questions

4:00 PM
Management of Malignant Pleural Mesothelioma: The European Perspective
Philippe Nafteux, Leuven, Belgium*

4:10 PM
Management of Malignant Pleural Mesothelioma: The North American Perspective
David J. Sugarbaker, Houston, TX

4:20 PM
Panel Discussion/Questions

4:30 PM
Surgery in Small Cell Lung Cancer: The European Perspective
Andreas Granetzny, Dusseldorf, Germany*

4:40 PM
Surgery in Small Cell Lung Cancer: The North American Perspective
David Harpole, Durham, NC

4:50 PM
Panel Discussion/Questions

5:00 PM
Chest Wall Tumors From Diagnosis to Reconstruction: The European Perspective
Kostas Papagiannopoulos, Leeds, United Kingdom

5:10 PM
Chest Wall Tumors From Diagnosis to Reconstruction: The North American Perspective
Stephen D. Cassivi, Rochester, MN

5:20 PM
Panel Discussion/Questions
TUESDAY, JANUARY 30, 2018

3:30 PM – 5:30 PM

General Thoracic: Esophageal

MODERATOR: James D. Luketich, Pittsburgh, PA

3:30 PM

ABSTRACT: Complications After Esophagectomy Are Associated With Extremes of Body Mass Index: An STS National Database Study

B. A. Mitzman1, P. H. Schipper2, M. A. Edwards3, S. Kim4, M. K. Ferguson1
1The University of Chicago, IL, 2Oregon Health & Science University, Portland, OR, 3St Louis University, MO, 4Duke Clinical Research Institute, Durham, NC

ABSTRACT: Detection of Tumor-Specific Mutations in Plasma DNA: A Potential Esophageal Adenocarcinoma Biomarker

1Boston Medical Center, MA, 2Bio-Rad Laboratories, Billerica, MA, 3Sahlgrenska Cancer Center, University of Gothenburg, Sweden, 4Ontario Institute for Cancer Research, Toronto, Canada, 5University of Rochester, NY, 6Boston University, MA, 7University of Pittsburgh Medical Center, PA

4:45 PM

ABSTRACT: Consequences of Refusing Surgery for Esophageal Cancer: A National Cancer Database Analysis

M. Rahouma1, M. K. Kanel, A. Nasar, B. E. Lee, S. W. Harrison, J. Port, N. K. Altorki, B. M. Stiles
Weill Cornell Medical College, New York, NY

4:15 PM

ABSTRACT: Racial Disparity in Utilization of High-Volume Hospitals for Surgical Treatment of Esophageal Cancer Patients

1Mount Sinai St Luke’s Hospital, New York, NY, 2Icahn School of Medicine at Mount Sinai, New York, NY, 3Mount Sinai Health System, New York, NY, 4Mount Sinai West and St Luke’s Hospitals, New York, NY, 5Mount Sinai Health System, Icahn School of Medicine at Mount Sinai, New York, NY

4:30 PM

ABSTRACT: Choice of Neoadjuvant Therapy for Locally Advanced Esophageal Cancer Should Be Targeted to Tumor Histology

Weill Cornell Medical College, New York, NY

4:45 PM

ABSTRACT: Does the Approach Matter? An Analysis of 9353 Patients in the National Cancer Database Comparing Survival and Outcomes of Robotic, Minimally Invasive, and Open Esophagectomies

F. E. Espinoza-Mercado1, T. Iinai1, J. D. Borgella1, R. F. Albam1, D. Serna-Gallegos1, D. Z. Liou1, H. J. Soukiasian1
1Cedars-Sinai Medical Center, Los Angeles, CA, 2Stanford University, CA

5:00 PM

ABSTRACT: Volume-Outcome Relationship in Minimally Invasive Esophagectomy

H. V. Salfity1, L. R. Timisina, D. P. Cappa, T. J. Birdas
Indiana University School of Medicine, Indianapolis

5:15 PM

ABSTRACT: Outcomes of Octogenarians With Esophageal Cancer: An Analysis of the National Cancer Database

A. C. Salani1, A. E. Abbas2, R. V. Petrov2, C. T. Bakhos2
1Albert Einstein Medical Center, Philadelphia, PA, 2Temple University, Philadelphia, PA

4:30 PM – 5:30 PM

Quality Improvement

MODERATOR: Vinay Badhwar, Morgantown, WV

4:30 PM

ABSTRACT: Development and Validation of a Risk Prediction Model for In-Hospital Stroke After Transcatheter Aortic Valve Replacement From the STS/ACCF TVT Registry

1Emory University, Atlanta, GA, 2Duke University, Durham, NC, 3Saint Luke’s Mid America Heart Institute, Kansas City, MO, 4Duke Clinical Research Institute, Durham, NC, 5The Heart Hospital Baylor Plano, TX, 6Massachusetts General Hospital, Boston, 7University of Colorado Denver, Aurora, 8American College of Cardiology, Washington, DC, 9Mayo Clinic, Rochester, MN, 10University of Pennsylvania, PA, 11University of Florida, Jacksonville

4:45 PM

ABSTRACT: Socioeconomic “Distressed Communities Index” Predicts Risk-Adjusted Operative Mortality After Coronary Artery Bypass Grafting

1University of Virginia Health System, Charlottesville, 2University of Virginia, Charlottesville, 3Virginia Cardiovascular Institute, Virginia Beach, 4University of Virginia Medical Center, Charlottesville, 5Virginia Commonwealth University, Richmond, 6East Carolina Heart Institute, Greenville, NC, 7Cardiac, Vascular & Thoracic Surgery Associates, Falls Church, VA

5:00 PM

ABSTRACT: Comparison of the Efficacy and Cost of Awake Thoracoscopic and VATS in Undiagnosed Pleural Effusion

1University of Virginia Health System, Charlottesville, 2University of Virginia, Charlottesville, 3Virginia Cardiovascular Institute, Washington, DC, 4University of Colorado Denver, Aurora, 5University of Texas Southwestern Medical Center, Dallas, 6Massachusetts General Hospital, Boston, 7University of Colorado, Denver, Aurora, 8American College of Cardiology, Washington, DC, 9University of Texas Medical School, Houston

5:15 PM

ABSTRACT: Successful Strategies to Reduce 30-Day Readmission After Coronary Artery Bypass Graft Surgery

1University of Florida, Jacksonville, 2CDC, Denver, CO, 3University of Arizona, Tucson, 4University of South Carolina, Columbia, 5University of Michigan, Ann Arbor

5:00 PM

ABSTRACT: Prediction Model for In-Hospital Stroke After Transcatheter Aortic Valve Replacement From the STS/ACCF TVT Registry

1Emory University, Atlanta, GA, 2Duke University, Durham, NC, 3Saint Luke’s Mid America Heart Institute, Kansas City, MO, 4Duke Clinical Research Institute, Durham, NC, 5The Heart Hospital Baylor Plano, TX, 6Massachusetts General Hospital, Boston, 7University of Colorado Denver, Aurora, 8American College of Cardiology, Washington, DC, 9Mayo Clinic, Rochester, MN, 10University of Pennsylvania, PA, 11University of Florida, Jacksonville

5:15 PM

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1University of Virginia Health System, Charlottesville, 2University of Virginia, Charlottesville, 3Virginia Cardiovascular Institute, Virginia Beach, 4University of Virginia Medical Center, Charlottesville, 5Virginia Commonwealth University, Richmond, 6East Carolina Heart Institute, Greenville, NC, 7Cardiac, Vascular & Thoracic Surgery Associates, Falls Church, VA

5:00 PM

ABSTRACT: Comparison of the Efficacy and Cost of Awake Thoracoscopic and VATS in Undiagnosed Pleural Effusion

1University of Virginia Health System, Charlottesville, 2University of Virginia, Charlottesville, 3Virginia Cardiovascular Institute, Washington, DC, 4University of Colorado Denver, Aurora, 5University of Texas Southwestern Medical Center, Dallas, 6Massachusetts General Hospital, Boston, 7University of Colorado, Denver, Aurora, 8American College of Cardiology, Washington, DC, 9University of Texas Medical School, Houston

5:15 PM

ABSTRACT: Successful Strategies to Reduce 30-Day Readmission After Coronary Artery Bypass Graft Surgery

1University of Florida, Jacksonville, 2CDC, Denver, CO, 3University of Arizona, Tucson, 4University of South Carolina, Columbia, 5University of Michigan, Ann Arbor
Wednesday JANUARY 31, 2018

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. More information will be provided when the lectures are available.

Course 1: Essentials of TAVR
COURSE DIRECTORS: Basel Ramlawi, Winchester, VA, and George Zorn, Kansas City, KS
FACULTY: William T. Brinkman, Plano, TX, Kevin L. Greason, Rochester, MN, Jefferson Lyons, Columbus, OH, S. Chris Malaisrie, Chicago, IL, Hersh S. Maniar, St Louis, MO, Himanshu J. Patel, Ann Arbor, MI, Liam Ryan, Alexandria, VA, and Eric L. Sarin, Atlanta, GA*

Proficiency in transcatheter aortic valve replacement (TAVR) requires the acquisition of multiple endovascular principles and techniques. This course will introduce attendees to balloon-expandable and self-expanding TAVR platforms, as well as the various sheaths, guidewires, and catheters relevant to TAVR. Basics of alternative TAVR access will be discussed, and all participants will gain operational knowledge of the various delivery systems.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe the decision-making process for choosing a TAVR access point (transfemoral, direct aortic, subclavian artery, and transapical)
• State the salient differences in the deployment of balloon-expandable vs self-expanding devices
• Describe the various types of sheaths and guidewires used during the TAVR procedure and understand reasons for their use

Course 2: TEVAR and Aortic Arch Debranching Procedures
COURSE DIRECTORS: Ali Khoynezhad, Los Angeles, CA, and Ourania A. Preventza, Houston, TX
FACULTY: Derek R. Brinster, New York, NY, Ankur Gupta, Long Beach, CA*, Sepideh Naficy, New York, NY*, and Rodney White, Long Beach, CA

This course will review basic catheter and wire skills for thoracic endovascular aortic repair (TEVAR). Participants will have hands-on experience with thoracic stent grafts and intravascular ultrasound (IVUS), as well as using vascular plugs from the brachial or femoral approach. Surgical techniques for zone 0-2 aortic arch debranching procedures will be discussed.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Identify the most common catheters and wires for TEVAR
• Describe the deployment of commercially available stent grafts
• Explain the use of IVUS and vascular plugs for subclavian artery occlusion
• Describe the surgical techniques used in aortic arch debranching

Course 3: Mitral Valve Repair
COURSE DIRECTORS: Steven F. Bolling, Ann Arbor, MI, and Evelio Rodriguez, Nashville, TN
FACULTY: A. Marc Gillinov, Cleveland, OH, and Matthew A. Romano, Ann Arbor, MI

In this course, participants will be able to practice different mitral valve repair strategies for both anterior and posterior leaflet pathologies. These will include leaflet resection and non-resection techniques, commissural repair strategies, and different chordal approaches. In addition, different surgical therapies for secondary mitral regurgitation, including ring selection, leaflet extension techniques, and mitral valve replacement, will be reviewed.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe different leaflet resection and non-resection approaches, in addition to different chordal techniques required for successful mitral valve repair
• Identify advance repair techniques for both primary and secondary mitral regurgitation
• Demonstrate proper mitral valve replacement techniques
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

FACULTY: Jeffrey Bravni, Baltimore, MD, Ruggero De Paulis, Rome, Italy, Michael Deeb, Ann Arbor, MI, Philip J. Hess Jr, Indianapolis, IN*, Melissa Jones, Baltimore, MD, Bradley G. Leshnower, Atlanta, GA, and Luca A. Vricella, Baltimore, MD

This course will provide interactive, hands-on instruction of the surgical techniques and critical steps necessary for performing a successful valve-sparing aortic root replacement (VSRR).

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe the anatomy of the aortic root
• Summarize the technical steps necessary for a successful VSRR
• List different methods in choosing a graft size
• Discuss leaflet repair and annuloplasty methods

Course 5: Aortic Root Enlargement Procedures and Aortic Valve Leaflet Reconstruction

COURSE DIRECTORS: S. Adil Husain, San Antonio, TX, and Prashanth Vallabhanosyula, Philadelphia, PA

FACULTY: Arminder Singh Jassar, Boston, MA, Alberto Pochettino, Rochester, MN, Edward Y. Sako, San Antonio, TX, and Ibrahim Sultan, Pittsburgh, PA

This course will review two specialized subareas of technical expertise required to perform complex aortic root surgery. Participants will learn the anatomic approaches and surgical techniques employed in performing aortic root enlarging procedures, as well as aortic valve leaflet reconstructive techniques and the importance of providing annular stabilization in the context of a repaired aortic valve. Surgical strategies for root enlargement will include Nicks, Manougian, and Ross Konno. Surgical techniques involving aortic valve leaflet reconstruction will include primary simple cusp plication techniques, patch augmentation technique, Gore-Tex free margin shortening technique, and orienting the repaired bicuspid aortic valve into its aortic neo-root.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Identify the key steps of tracheobronchoplasty
• Identify the key steps of tracheobronchoplasty

Course 6: VATS Lobectomy

COURSE DIRECTORS: DuyKhanh P. Ceppa, Indianapolis, IN, and Betty C. Tong, Durham, NC


This course will review the indications, patient selection, technical steps, and recent advances for performance of lobectomy using video-assisted thoracic surgery (VATS). Participants will be able to perform a VATS left upper lobectomy on porcine heart-lung blocks.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Describe the indications and steps to perform VATS
• Discuss potential pitfalls and strategies for intraoperative troubleshooting to successfully achieve minimally invasive lobectomy
• Identify instruments and other technologies available to perform minimally invasive lobectomy

Course 7: Advanced Open Esophageal and Tracheal Procedures

COURSE DIRECTORS: Sidharta P. Gangadharan, Boston, MA, and Sandra L. Starnes, Cincinnati, OH

FACULTY: Rafael S. Andrade, Minneapolis, MN, Scott M. Atay, Los Angeles, CA, Andrew Chang, Ann Arbor, MI, James Huang, New York, NY*, Robert E. Merritt, Columbus, OH, John D. Mitchell, Aurora, CO, K. Robert Shen, Rochester, MN*, John Wain, Boston, MA*, and Jennifer L. Wilson, Boston, MA

This course will provide hands-on training for several esophageal anastomosis techniques, as well as airway anastomosis and repair. These advanced operative techniques are not frequently utilized in most general thoracic surgery practices, but competence in these techniques is important. Participants will be introduced to several techniques for airway and esophageal reconstruction with emphasis in the different technical aspects (“pearls”) of the anastomosis from content experts.

Learning Objectives
Upon completion of this activity, participants should be able to:
• Identify and perform the appropriate esophageal anastomosis technique depending on anatomic or other considerations
• Perform airway anastomoses and recognize technical pitfalls associated with the various techniques
• Identify the key steps of tracheobronchoplasty
Course 8: Chest Wall Resection, Reconstruction, and Pectus Surgery

COURSE DIRECTORS: Dawn E. Jaroszewski, Phoenix, AZ, Daniel L. Miller, Marietta, GA, and Mathew Thomas, Jacksonville, FL

FACULTY: Staci Beamer, Phoenix, AZ

In this hands-on course, participants will learn the various techniques for reconstruction of large chest wall defects after resection. Other highlights of the course include stabilization of rib and sternal fractures using the most current reconstruction systems and minimally invasive repair of adult pectus excavatum defects. At the end of this course, participants should be able to independently design and perform reconstruction of the chest wall for various indications.

Learning Objectives

Upon completion of this activity, participants should be able to:

• Perform rigid and semi-rigid reconstruction of chest wall defects after resection, including the ribs and sternum
• Demonstrate how to stabilize single and multiple rib fractures using rib fixation devices
• Use sternal fixation devices to stabilize the sternum
• Perform minimally invasive repair of adult pectus excavatum defects

NEW! Course 9: Minimally Invasive Aortic and Mitral Valve Surgery

COURSE DIRECTORS: Tom C. Nguyen, Houston, TX, and Vinod H. Thourani, Washington, DC

FACULTY: Kevin D. Accola, Orlando, FL, Glenn Bamhart, Seattle, WA, Kuan-Ming Chiu, Taipei, Taiwan, Borut Gersak, Ljubljana, Slovenia, Peter A. Knight, Rochester, NY, Eric Lehr, Seattle, WA*, S. Chris Malasrie, Chicago, IL, Carmelo Mignosa, Catania, Italy, Kazuma Okamoto, Akashi, Japan, Konstadinos Plestis, Wynnewood, PA, and Juan P. Umana, Bogota, Colombia*

Cardiothoracic surgeons face an increased demand to adopt minimally invasive valve techniques. Unfortunately, acquiring this skillset can be difficult in real-world practice. The objective of this course is to provide hands-on experience with the newest techniques in minimally invasive aortic and mitral valve surgery. Participants will work in alternating pairs at each station to learn critical exposure and cannulation techniques for minimally invasive aortic (right anterior thoracotomy and hemi-sternotomy) and mitral (lateral thoracotomy) surgery. Participants will then have an opportunity to perform aortic and mitral valve repair/replacement using simulators under both direct vision and via thorascopic guidance. For aortic valve replacements, participants will gain exposure to sutureless and rapid deployment technologies. At the conclusion of the course, a handout will be distributed with a list of key instruments for minimally invasive valve surgery and suggested steps for building a minimally invasive valve program.

Learning Objectives

Upon completion of this activity, participants should be able to:

• Explain exposure (right anterior thoracotomy, hemi-sternotomy, and lateral thoracotomy), cannulation, and cardioprotection techniques for minimally invasive valve surgery
• Identify key operative steps for successful minimally invasive aortic and mitral valve surgery, including sutureless and rapid deployment technologies
• Describe the indications and contraindications for minimally invasive valve surgery

NEW! Course 10: POEM Skills

COURSE DIRECTORS: Ralph W. Aye, Seattle, WA, and Inderpal S. Sarkaria, Pittsburgh, PA

FACULTY: Francisco A. Arabia, Los Angeles, CA, David A. D’Alessandro, Bronx, NY, Richard H. Feins, Chapel Hill, NC, Akinobu Itoh, St Louis, MO, Duc Thinh Pham, Boston, MA, Pablo Sanchez, Baltimore, MD, Jacob N. Schroder, Durham, NC, and Hiroo Takayama, New York, NY

This is a practical, hands-on course for learning peroral endoscopic myotomy (POEM) using an explant model. Participants will learn how to plan landmarks for the procedure, how to access the submucosal space and create a long submucosal tunnel extending through the gastroesophageal junction, how to perform myotomy, and how to close the mucosotomy. The standard tools and electrothermy instruments for performing the procedure will be explored in detail.

Learning Objectives

Upon completion of this activity, participants should be able to:

• Determine the proper landmarks for beginning and completing the procedure
• Create a submucosal tunnel
• Perform an endoscopic myotomy within the tunnel
• Close the mucosotomy
Scientific Posters

**Adult Cardiac Surgery**

Risk Model for In-Hospital Mortality in Aortic Surgery for Ascending Aortic Aneurysm in the United States Using the STS National Database  
A. O. Geirsson, Yale University, New Haven, CT

Spinal Cord Deficit After 1109 Extent II Open Thoracoabdominal Aortic Aneurysm Repairs  
J. S. Coselli, Baylor College of Medicine, Houston, TX

STS-PROM, Sarcopenia, and Frailty Markers Are Not Predictive of 1-Year Mortality After Transcatheter Aortic Valve Replacement  
J. J. Squiers, The Heart Hospital Baylor Plano, TX

Targeting the Hexosamine Biosynthetic Pathway in Chronic Myocardial Ischemia and Hyperglycemia  
L. A. Scrimgeour, Brown University, Providence, RI

Bileaflet Repair vs Isolated Posterior Repair for Bileaflet Mitral Valve Prolapse  
M. A. Khosravi, Cleveland Clinic, OH

Impact of Sharing Adult Blood Type O Donor Hearts With Non-O Recipients: Survival Simulation by Blood Type Using the United Network for Organ Sharing Registry and Markov Modeling  
M. A. Ando, Columbia University Medical Center, New York, NY

Development and Utility of a Preoperative Biomarker Panel to Improve Prediction of Readmission After Cardiac Surgery  
J. R. Brown, Dartmouth College, Lebanon, NH

Surgical Repair of Anteroapical Left Ventricular Aneurysms Guided with Multislice Computed Tomography: Survival Determinants and Improvement of Heart Failure Symptoms  
N. V. Solovjova, German Heart Institute, Berlin

Early and Mid-Term Clinical and Hemodynamic Outcomes of Rapid Deployment Aortic Bioprostheses: Results From a National Registry  
A. D’Onofrio, University of Padua, Italy

Valve-in-Valve Transcatheter vs Redo Surgical Aortic Valve Replacement  
J. J. Kelly, Emory University, Atlanta, GA

Transcatheter Aortic Valve Replacement: A Comparison of Outcomes via Transfemoral, Transcarotid, and Transcaval Valve Delivery  
G. Paone, Henry Ford Hospital, Detroit, MI

Frozen Elephant Trunk Reduced Stroke  
K. K. Yamana, IMS Katsushika Heart Center, Tokyo, Japan

Endoscopy in Aortic Valve Repair: A Helpful Tool?  
F. A. Mourad, West German Heart Center Essen

Despite No Influence on Short-Term Mortality, Intensity of Glycemic Control Affects Long-Term Survival After Coronary Artery Bypass Grafting  
M. P. Robich, Maine Medical Center, Portland

Biological vs Mechanical Valve in Patients With Aortic Prosthesis-Patient Mismatch  
S. Maltais, Mayo Clinic, Rochester, MN

Impact of Redo Sternotomy on Proximal Aortic Repair: Does Previous Aortic Repair Affect Outcomes?  
H. K. Sandhu, McGovern Medical School at UT Health, Houston, TX

Impact of Baseline Mitral Regurgitation on Postoperative Outcomes in Left Ventricular Assist Device Implantation as Destination Therapy Patients  
A. K. Okoh, New York Beth Israel Medical Center, NJ

The Impact of Preoperative Atrial Fibrillation on Patients Undergoing Surgical and Transcatheter Aortic Valve Replacement  
D. Pharm, Northwestern Memorial Hospital, Chicago, IL

Outcomes of Papillary Muscle Realignment at the Time of Septal Myectomy for Treatment of Hypertrophic Obstructive Cardiomyopathy  
H. Song, Oregon Health & Science University, Portland

Reversibility of Pulmonary Vascular Remodeling and Prognostic Role in Outcome After Restrictive Mitral Annuloplasty in Patients With Preexisting Pulmonary Hypertension  
S. Kainuma, Osaka University, Suita, Japan

Bioprosthetic Valve Fracture to Facilitate Valve-in-Valve Transcatheter Aortic Valve Replacement in Small Surgical Bioprostheses: Early Hemodynamic and Echocardiographic Results  
K. B. Allen, Saint Luke’s Mid America Heart Institute, Kansas City, MO

Propensity Score-Matched Analysis of Coronary Artery Bypass Grafting vs Second Generation Drug-Eluting Stents for Triple-Vessel Disease  
K. Nishigawa, Sakakibara Heart Institute, Tokyo, Japan

Twenty-Year Experience With Off-Pump Coronary Artery Bypass Surgery: Lessons Learned From Early Postoperative Angiography  
K. Kim, Seoul National University Hospital, South Korea

Impact of Frailty on Outcomes in Acute Type A Aortic Dissection  
T. Gomibuchi, Shinshu University, Matsumoto, Japan

Cost Effectiveness of Self-Expandable Transcatheter Aortic Valve Replacement vs Surgery for Aortic Stenosis in the Intermediate Surgical Risk Population  
D. Y. Tam, Sunnybrook Health Sciences Centre, University of Toronto, Canada

C. Kuribara, Texas Heart Institute/Baylor College of Medicine, Houston

Off-Pump Coronary Artery Bypass in Octogenarians: Results of a Statewide, Matched Comparison  
A. Suarez-Pierre, The Johns Hopkins University School of Medicine, Baltimore, MD
Safety and Rhythm Control Efficacy of En Bloc Isolation of the Left Pulmonary Veins and Appendage in Port Access Thoracoscopic Surgery for Standalone Atrial Fibrillation
T. Ohtsuka, Tokyo Metropolitan Tama Medical Center, Japan

Wall Stress of Early Remodeled Pulmonary Autograft
E. E. Tseng, University of California, San Francisco Medical Center and San Francisco VA Medical Center

Are Internal Mammary Artery Grafts Beneficial in Emergent Coronary Artery Bypass Surgery? An STS National Database Analysis
M. S. Slaughter, University of Louisville, KY

Episode Payments of Transcatheter Aortic Valve Replacement vs Surgical Aortic Valve Replacement and Relationship to Case Volume
A. A. Brescia, University of Michigan, Ann Arbor

Characterization of Permanent Pacemaker Implantation Following Rapid Deployment Aortic Valve Replacement
M. Romano, University of Michigan, Ann Arbor

Acute Kidney Injury in Acute Type B Aortic Dissection: Incidence, Risk Factors, and Outcomes Over 20 Years
R. C. Hoogmoed, University of Michigan Medical School, Ann Arbor

Redo Surgical Aortic Valve Replacement vs TAV/SAV for Failed Surgical Aortic Prosthetic Valves
S. Ward, University of Michigan Health System, Ann Arbor

Novel Pulmonary-Systemic Pressure Ratio Correlates With Morbidity in Cardiac Valve Surgery More Than Pulmonary Artery Pressure Alone
S. Schubert, University of Virginia, Charlottesville

Clinical and Echocardiographic Outcomes in Aortic Valve Replacement for Mixed Aortic Valve Disease
J. L. Philp, University of Wisconsin, Madison

Open Repair of Descending and Thoracoabdominal Aortic Aneurysms in Octogenarians
L. N. Girardt, NewYork-Presbyterian/Weill Cornell Medical Center, NY

Longitudinal Outcomes of Robotic Mitral Valve Repair in Older Individuals: An Analysis of the STS Adult Cardiac Surgery Database
A. Wang, Duke University, Durham, NC

Aortic Valve-Sparing Root Replacement (David Procedure): Comparison Between Straight Tube Graft (David I) and Valsalva Graft
E. Beckmann, Hanover Medical School, Germany

Congenital Heart Surgery
Graft Replacement and In-Situ Reconstruction of Kommerell’s Diverticulum and Aberrant Subclavian Artery in Adults
Y. F. Ikono, Kobe University, Hyogo, Japan

Maximizing Survival in Hypoplastic Left Heart Syndrome: Evolution of a Balanced Institutional Strategy
T. Karamlou, Phoenix Children’s Hospital, AZ

Patients With a Systemic Right Ventricle Are at Higher Risk of Chylothorax After Cavopulmonary Connections
J. Soquet, Royal Children’s Hospital Melbourne, Parkville, Australia

Is a Decellularized Porcine Small Intestine Submucosa Patch Suitable for Aortic Arch Repair?
A. F. Corno, University Hospitals of Leicester, United Kingdom

Extracardiac vs Lateral Tunnel Fontan: A Meta-Analysis of Long-Term Results With Special Focus on Arrhythmias
W. Ben Ali, Montreal Heart Institute, Canada

A Novel Bio-Chemo-Mechanical Model of Tissue-Engineered Vascular Graft Development
R. Khosravi, Yale University, New Haven, CT

Intra/Extracardiac vs Extracardiac Fontan Modifications: Comparison of Early Outcomes
L. M. Sinha, Children’s National Medical Center, Washington, DC

Surgical Repair of Pulmonary Atresia With a Ductus Arteriosus or Hemi-Truncus to One Lung and Major Aortopulmonary Collaterals to the Contralateral Lung
R. D. Mainwaring, Stanford University School of Medicine, CA

Remote Ischemic Preconditioning Does Not Prevent White Matter Injury During Cardiac Surgery in Neonates
J. W. Gaynor, The Children’s Hospital of Philadelphia, PA

Aortic Extension to Relieve Pulmonary Artery Compression Following Norwood Palliation
L. M. Wiggins, University of Southern California, Los Angeles

Impact of Passive Peritoneal Drainage on Achieving Negative Fluid Balance and Decreasing Inflammatory Mediators: A Randomized Prospective Trial
S. N. Suguna Narasimhulu, The Heart Center at Arnold Palmer Hospital for Children, Orlando, FL

Electroencephalogram Activity During Deep Hypothermia and Circulatory Arrest in Neonatal Swine and Humans: A Comparative Study
C. D. Mavroudis, University of Pennsylvania, PA

Methemoglobin as a Potential Marker of Inadequate Tissue Oxygenation Following Palliation for Complex Congenital Heart Disease
M. F. Swartz, University of Rochester - Strong Memorial Hospital, NY

Glial Fibrillary Acidic Protein Plasma Levels During Congenital Heart Disease Surgery Inversely Correlate With Vineland Adaptive Behavior Scales Communication Score
M. Padalino, University of Padua, Italy

Clinical Characteristics of Patients Requiring Prolonged Stays in the Intensive Care Unit Following Total Cavopulmonary Connection
M. M. Ono, German Heart Center Munich

Quantitative Assessment of Vascular Ring in Children Using Multislice Computed Tomography Imaging
Y. F. Ikono, Kobe University, Hyogo, Japan

Perioperative Outcome of Stage 1 Norwood Palliation With Dual Arterial Cannulation
A. N. Ibrahimiyi, Children’s Hospital and Medical Center Omaha, NE

National Benchmarks for Proportions of Patients Receiving Blood Transusions During Pediatric and Congenital Heart Surgery: An Analysis of the STS Congenital Heart Surgery Database
V. M. Kirtha, Johns Hopkins All Children’s Hospital, St Petersburg, FL

Selective Placement of Temporary Epicardial Pacing Leads and Determinants of Postoperative Use in Early Infancy After Cardiac Surgery
A. C. Polimenakos, Children’s Hospital of Georgia, Augusta
Critical Care
Addressing Diaphragm Dysfunction in Cardiac Surgery Patients: Successful Therapeutic Use With Current Technology and Future Prophylactic Use of Temporary Diaphragm Pacing Utilizing Intramuscular Electrodes
R. P. Onders, University Hospitals Cleveland Medical Center, OH
The Role of an Artificial Pancreas in Glucose Management During Aortic Surgery
Y. Hoshino, The University of Tokyo Hospital, Japan
Outcome Analysis of Extracorporeal Cardiopulmonary Resuscitation in Cardiac Arrest Patients After Cardiac Surgery
J. J. Qiu, Fu Wai Hospital, Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing

General Thoracic Surgery
Fast Tracking in Video-Assisted Lobectomy: A Prospective, Historically Controlled, Case-Matched Clinical Trial
M. H. Tahiri, CHUM Endoscopic Tracheobronchial and Oesophageal Center, University of Montreal, Canada
The Role of Thoracoscopic Pneumonectomy in the Management of Non-Small-Cell Lung Cancer: A Multi-Institutional Analysis
C. J. Yang, Duke University Medical Center, Durham, NC
Patterns of Recurrence and Methods of Surveillance in Low- and Intermediate-Grade Neuroendocrine Tumors
A. F. Feckzo, Swedish Medical Center, Seattle, WA
Treatment Approaches and Outcomes for Primary Mediastinal Sarcoma
K. E. Engelhardt, Northwestern University, Chicago, IL
Is Esophagectomy for Benign Conditions Benign?
K. M. Masabni, Henry Ford Hospital/Wayne State University School of Medicine, Detroit, MI
Sublobar Resection and Video-Assisted Thoracic Surgery Approach Are Associated With Decreased Postoperative Atrial Fibrillation/Flutter After Lung Cancer Surgery—A Nationwide Inpatient Sample Analysis
E. A. Bent Robinson, University of California, Davis Medical Center, Sacramento
Fabrication of a 3-Dimensional Bioprinted Tracheal Scaffold With Fibrous Cover and Cartilaginous Regeneration
D. Zeltsman, Northwell Health System, New Hyde Park, NY
TLR-4 Is a Mediator of Proliferation in Esophageal Cancer Cells
P. D. Kohtz, University of Colorado, Aurora
PD-L1 Expression <1% Is Associated With Improved Antineoplastic Response to Metformin in Resected, Early Stage Non-Small-Cell Lung Cancer
C. W. Seder, Rush University Medical Center, Chicago, IL
DNA Methylation Profiling of Squamous Cell Lung Cancer With Idiopathic Pulmonary Fibrosis
A. Hata, Chiba University Graduate School of Medicine, Japan
Patterns of Recurrence, Recurrence Rate, and Overall Survival in Incidental Lung Cancer in Explanted Lungs
U. Ahmad, Cleveland Clinic, OH
A Propensity Score-Matched Study of Lung Transplant Recipients Aged <70 and ≥70 Years
A. A. Kashem, Temple University, Mount Laurel, NJ
Socioeconomic Status and Its Impact on Access to Lung Transplantation in the United States: An Unequal Playing Field Exposed
E. G. Chan, University of Pittsburgh Medical Center, PA
Redo Bilateral Lung Transplants: Triumph of Technique Over Judgment?
J. W. Sui, University of Texas Health Science Center, San Antonio
Pathologic Treatment Response Is Associated With Increased Overall Survival in Patients Undergoing Neoadjuvant Chemotherapy Followed by Pneumonectomy
S. M. Atay, University of Southern California, Keck School of Medicine, Los Angeles

Better Survival With Video-Assisted Thoracic Surgery and Early Initiation of Adjuvant Chemotherapy in the National Cancer Database
N. H. Gul, University at Buffalo, NY
Role of Wedge Resection in Bronchial Carcinoid Tumors
M. Rahouma, New York-Presbyterian/Weill Cornell Medical Center, NY
Impact of EGFR Mutation Status on Prognosis of Recurrent Adenocarcinoma of the Lung After Curative Surgery
T. Isaka, Yokohama City University, Kanagawa, Japan
Intrathoracic Phrenic Nerve Reconstruction for Successful Reversal of Chronic Diaphragmatic Paralysis: A Functional Alternative to Plication
T. Bauer, Jersey Shore University Medical Center, Neptune, NJ
Financial Analysis of a Free Lung Cancer Screening Program Shows Profitability Within 3 Years Despite Applying Broader National Comprehensive Cancer Network Criteria
J. M. Chung, Augusta University Medical Center, GA
The True Incidence of Thoracic Lymph Node Metastases in Patients With Pulmonary Neuroendocrine (Carcinoid) Tumors
R. J. Cerfolio, New York University, New York
Superior Vena Cava Replacement for Thymic Malignancies
G. Maurizi, Sapienza University, Sant'Andrea Hospital, Rome, Italy
Minimum Number of Lymph Nodes to Examine and Survival Prediction in Esophageal Carcinomas With Nodal Staging Score and Nomogram
D. Zheng, Fudan University Shanghai Cancer Center, China
Gastrointestinal Function After Esophagectomy: Which Type of Resection and Perioperative Treatment Has Better Outcomes?
Y. Y. Perry, University Hospitals Cleveland Medical Center, OH
All Patients With Giant Hiatal Hernias Require Referral to a Surgeon
A. C. Ednie, Dalhousie University, Halifax, Canada
Surgical Management of Post-ESOPHAGECTOMY Tracheobronchial-Esophageal Fistula
A. Balakrishnan, Massachusetts General Hospital, San Francisco, CA
Disparities in Optimal Esophageal Cancer Treatment
J. D. Rice, The University of Louisville, KY
Admission for Advanced Esophageal Cancer: A Dedicated Team Approach Benefits Patients and Reduces Costs
N. D. Tingquist, University of Arkansas for Medical Sciences, Little Rock
The Impact of Cytomegalovirus Serology on Survival Following Lung Transplantation
D. J. Hall, University of Florida, Gainesville
Endosonographic Lymph Node Staging for Early Stage Inoperable Non-Small-Cell Lung Cancer Treated by Stereotactic Body Radiation Therapy
T. I. Lenet, CHUM Endoscopic Tracheobronchial and Oesophageal Center, University of Montreal, Canada

Quality Improvement
The STS 30-Day Predicted Risk of Mortality Score Is a Reliable Predictor of Long-Term Survival in Israeli Patients Undergoing Cardiac Surgery
E. I. Ben-David, St George’s, University of London, United Kingdom
Risk Aversion in Cardiac Surgery Is Associated With Worse Outcomes
R. B. Havkins, University of Virginia, Charlottesville
Patient-Reported Experience After Cardiac Surgery: Identifying Areas for Improvement
M. R. Helder, Mayo Clinic, Rochester, MN
Registration Instructions

Registration and housing are available online at www.sts.org/annualmeeting.

Please note: Registration is required in order to reserve Annual Meeting housing.

Deadline: Early bird registration will end November 19, 2017; registration fees will increase after this date. Additionally, you must register by Thursday, January 4, 2018, to reserve housing at the special Annual Meeting rates.

Questions about registration? Contact the Society’s official registration partner, Experient, at (800) 424-5249 (toll free), 00-1-847-996-5829 (for international callers), or sts@experient-inc.com.

Registration Categories

Annual Meeting registration is open to everyone with an interest in cardiothoracic surgery. Please note that STS members are NOT automatically registered for the Annual Meeting.

STS SURGEON MEMBERS: STS Active, International, and Senior Members.

STS ASSOCIATE MEMBER PHYSICIANS (NON-CT SURGEONS): STS member physicians with an interest in cardiothoracic surgery who are not eligible to become Active, International, Candidate, or Pre-Candidate Members.

STS ASSOCIATE MEMBER NON-PHYSICIANS: STS members who are PhD research scientists, physician assistants, perfusionists, nurses, nurse practitioners, practice administrators, data managers, and others with an interest in cardiothoracic surgery.

STS PRE-CANDIDATE AND CANDIDATE MEMBERS:
Pre-Candidate: Medical students and general surgery residents who are STS members. Candidate: Cardiothoracic surgery residents/fellows/trainees who are STS members.

NON-MEMBER PHYSICIANS: Non-member cardiothoracic surgeons and other physicians with an interest in cardiothoracic surgery.

NON-MEMBER NON-PHYSICIANS: Non-member PhD research scientists, physician assistants, perfusionists, nurses, nurse practitioners, practice administrators, data managers, and others with an interest in cardiothoracic surgery.

NON-MEMBER RESIDENTS, FELLOWS, AND MEDICAL STUDENTS: In order to register for the STS 54th Annual Meeting, non-member general surgery residents and cardiothoracic surgery residents/fellows must complete a registration certification form during the online registration process. Non-member medical students must upload a copy of their current student identification card to the registration website.

Separate Registrations

STS/AATS Tech-Con 2018 and the STS 54th Annual Meeting require separate registration.

Tech-Con registration provides access only to the educational sessions on Saturday, January 27.

Annual Meeting registration provides access only to the educational sessions on Sunday, January 28, Monday, January 29, and Tuesday, January 30. You also will receive complimentary access to Annual Meeting Online.

Separate ticket purchases are required to attend the President’s Reception (Sunday, January 28) and STS University courses (Wednesday, January 31).

Become an STS Member!

Non-members interested in attending the STS 54th Annual Meeting can gain numerous benefits by applying for STS membership.

Applications for Associate, Candidate, or Pre-Candidate Membership must be submitted by Monday, January 8, 2018, to allow time for processing. Those approved for membership can attend the STS 54th Annual Meeting as members and immediately begin enjoying member benefits, such as discounted registration fees.

For membership information and an application, visit www.sts.org/membership or contact Sarah Foreman, Senior Coordinator, Member Services, at sforeman@sts.org.

Cancellation Policy

All cancelation requests must be made in writing and e-mailed to meetings@sts.org by January 19, 2018. Requests for refunds will not be honored if submitted after that date. A processing fee of $100 will be charged for all cancelations.

Onsite Registration Information

Onsite registration will be located on the first floor of the Greater Fort Lauderdale/Broward County Convention Center.

Friday, January 26 . . . . . . . . . . . . . . 3:00 PM – 6:00 PM
Saturday, January 27 . . . . . . . . . . . . 6:30 AM – 6:00 PM
Sunday, January 28 . . . . . . . . . . . . . 7:00 AM – 6:30 PM
Monday, January 29 . . . . . . . . . . . . . 6:30 AM – 5:00 PM
Tuesday, January 30 . . . . . . . . . . . . . 6:30 AM – 4:30 PM
Wednesday, January 31 . . . . . . . . . . . . . 6:30 AM – 9:30 AM
## Pricing

### STS 54th Annual Meeting

<table>
<thead>
<tr>
<th>Event</th>
<th>STS Members</th>
<th>Non-Members</th>
</tr>
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<tbody>
<tr>
<td><strong>STS 54TH ANNUAL MEETING</strong> (INCLUDES ANNUAL MEETING ONLINE)</td>
<td></td>
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<tr>
<td>Early Bird (through November 19)</td>
<td>$375</td>
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<tr>
<td>Standard (November 20 – January 25)</td>
<td>$475</td>
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<tr>
<td>Onsite (January 26 – January 31)</td>
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<tr>
<td><strong>STS/AATS TECH-CON 2018</strong></td>
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<tr>
<td>Early Bird (through November 19)</td>
<td>$400</td>
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<tr>
<td>Standard (November 20 – January 25)</td>
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<td><strong>TICKETED EVENTS</strong> (MUST BE REGISTERED FOR THE STS ANNUAL MEETING)</td>
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<tr>
<td>President’s Reception</td>
<td>$95</td>
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<tr>
<td>STS University Course (each)</td>
<td>$175</td>
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### STS 54th Annual Meeting Online

Access to the STS 54th 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. 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.

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

**STS 54th Annual Meeting Online:** The Society of Thoracic Surgeons designates this enduring material for a maximum of 107.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
Housing and Travel Information

Meeting Location
All educational programming for the STS 54th Annual Meeting and STS/AATS Tech-Con 2018 will take place at the Greater Fort Lauderdale/Broward County Convention Center.

★ Greater Fort Lauderdale/Broward County Convention Center
1950 Eisenhower Blvd
Fort Lauderdale, FL 33316
(954) 765-5900
www.ftlauderdalecc.com

STS HOTELS

<table>
<thead>
<tr>
<th>Place</th>
<th>Room rate (per night)</th>
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<tbody>
<tr>
<td>1 B Ocean Fort Lauderdale</td>
<td>$319</td>
</tr>
<tr>
<td>2 Courtyard by Marriott Fort Lauderdale Beach</td>
<td>$289</td>
</tr>
<tr>
<td>3 Embassy Suites by Hilton Fort Lauderdale 17th Street</td>
<td>$289</td>
</tr>
<tr>
<td>4 Fort Lauderdale Marriott Harbor Beach Resort &amp; Spa</td>
<td>$333</td>
</tr>
<tr>
<td>5 Hilton Fort Lauderdale Marina</td>
<td>$299</td>
</tr>
<tr>
<td>6 Hyatt Place Fort Lauderdale 17th Street Convention Center</td>
<td>$210</td>
</tr>
<tr>
<td>7 Pier Sixty-Six Hotel &amp; Marina</td>
<td>$299</td>
</tr>
<tr>
<td>8 Lago Mar Beach Resort &amp; Club</td>
<td>$295</td>
</tr>
<tr>
<td>9 Renaissance Fort Lauderdale Cruise Port Hotel</td>
<td>$325</td>
</tr>
<tr>
<td>10 Westin Fort Lauderdale Beach Resort</td>
<td>$307</td>
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Housing and Travel Information

Housing Information
You can reserve housing while you are registering for the Annual Meeting at www.sts.org/annualmeeting. The housing deadline is Thursday, January 4, 2018.

Complimentary shuttle service will be provided between all official STS hotels and the convention center beginning Friday, January 26, 2018. Schedules will be posted in the lobby of each hotel.

Questions about housing? Contact the Society’s official housing partner, Experient, at (800) 424-5249 (toll free), 00-1-847-996-5829 (for international callers), or sts@experient-inc.com.

Air Travel
The Fort Lauderdale–Hollywood International Airport (FLL) is located approximately 3 miles from the Greater Fort Lauderdale/ Broward County Convention Center.

Ground Transportation
Car Rental
STS has negotiated special car rental rates from Hertz Rent a Car. Reservations may be placed at www.hertz.com or at (800) 654-2240 from within the United States and Canada; from international locations, call 00-1-405-749-4434. To receive the special STS rate, reference convention number (CV#) 04R50005 when making your car rental reservations. Parking at the Greater Fort Lauderdale/Broward County Convention Center is $15 per day.

Taxi Service
Approximate taxi fare from the airport to official STS hotels is $20 one way.

Shuttle Service / Private Car
Discounted airport shuttle and private car services are available to STS attendees through GO Airport Shuttle. Shuttle service to official STS hotels is $11.50 per person one way. Private car service is $41.40 per person one way. For reservations, visit www.sunny.org/sts and select “Airport Transportation.”

Information for International Attendees
Visa Information
If you are not a US citizen and plan to attend the STS Annual Meeting, advance planning is critical! Attendees from outside the United States may need to apply for a visa at the American embassy, consulate, or other visa-issuing office in their country of origin. Please begin your visa application process as soon as possible. The application and interview process varies from country to country and can take up to 90 days to complete. Learn more about the visa process at www.travel.state.gov.

The Visa Waiver Program allows citizens of participating countries travel to the United States for 90 days or less without a visa, provided that they meet all program requirements and have a valid Electronic System for Travel Authorization (ESTA) approval from the US government. For more information about the Visa Waiver Program, visit www.travel.state.gov/content/visas/en/visit/visa-waiver-program.html.

Letters of Invitation
If you need a personalized letter of invitation, visit www.sts.org/annualmeeting and complete the Letter of Invitation Request Form. Once you have completed the request form, STS will e-mail a personalized letter of invitation to you within 1 business week. Please note: STS cannot promise that you or your colleagues will receive a visa, nor can it change the decision of any governmental agency should your application be denied.

About Fort Lauderdale and the United States
Even for the seasoned traveler, a trip may require some advance planning. Learn more about essential information, helpful travel tips, and answers to common questions at these websites:
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