THIRTY-SEVENTH ANNUAL MEETING
AND SCIENTIFIC SESSIONS
SAN DIEGO, CALIFORNIA

ISHLT ACADEMIES:

ISHLT ACADEMY: CORE COMPETENCY COURSE IN MECHANICAL CIRCULATORY SUPPORT
April 4, 2017

ISHLT ACADEMY: CORE COMPETENCY COURSE IN PEDIATRIC MECHANICAL CIRCULATORY SUPPORT
April 4, 2017

ISHLT ACADEMY: CORE COMPETENCY COURSE IN INFECTIOUS DISEASES IN THORACIC TRANSPLANTATION AND MEchanical Circulatory Support
April 4, 2017

ISHLT ACADEMY: MASTER CLASS IN PULMONARY HYPERTENSION
April 4, 2017

ISHLT ACADEMY: MASTER CLASS IN MECHANICAL CIRCULATORY SUPPORT
April 4, 2017

INTERNATIONAL SOCIETY FOR HEART & LUNG TRANSPLANTATION

APRIL 5-8, 2017

CONVENING AT THE MANCHESTER GRAND HYATT HOTEL SAN DIEGO, CA, USA
2016-2017
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www.ishlt.org
Dear Colleague:

ON BEHALF OF MARYL JOHNSON, MD, PRESIDENT OF THE INTERNATIONAL SOCIETY FOR HEART AND LUNG TRANSPLANTATION, the ISHLT Board of Directors and the 2017 Scientific Program Committee, I have the honor of inviting you to attend the Society’s 37th Annual Meeting and Scientific Sessions to be held April 5-8, 2017 in San Diego, California.

The 2017 Annual Meeting will be held at the newly renovated Manchester Grand Hyatt Hotel, which is ideally situated on San Diego Bay between the San Diego Convention Center and the city’s popular Seaport Village. San Diego’s thriving downtown districts, including the historic Gaslamp Quarter, offer a diverse array of accommodations, activities, dining, shopping and cultural attractions, all within walkable city blocks. When the sun goes down, the city’s Gaslamp Quarter comes alive as it takes center stage in San Diego’s bustling nightlife scene. With a colorful array of restaurants, nightclubs, art galleries and boutiques, you will find plenty of things to do, all within walking distance.

We hope to build on the tremendous success of the 2016 Washington, DC meeting, the best attended meeting in the Society’s history. While the meeting will begin as usual on Wednesday and end as usual on Saturday at 1:30 pm, the format of the San Diego meeting will be different from previous meetings. The Opening Plenary will take place on Wednesday instead of Thursday, after which will see Symposia sessions distributed throughout the week, instead of being only on Wednesday. Additionally, two clusters of program content will be focused on a couple of days rather than spread throughout the meeting with Infectious Diseases on Wednesday and Thursday (to follow the Infectious Disease Academy on Tuesday), and Pathology on Friday.
The plenary sessions will feature some transplant specific content but also some thought provoking talks from outside of our world sure to stimulate thought and conversations. This year’s plenaries will also be notable for a couple of dynamic duos. The first is a powerhouse couple from the Baltimore area. Sommer Gentry, a theoretical mathematician from the US Naval Academy, will address the role of novel solutions to the donor allocation system in her talk *Share and Share Alike: Optimizing Organ Allocation in an Era of Increasing Need*. Her husband, Dorry Segev, a transplant surgeon from Johns Hopkins, will help us wrestle with the promises and pitfalls of transplant centers using social media to interact with patients and the broader community in his presentation, *Tweets, Texts and Posts: Does Social Media Improve or Complicate Communication in Medicine*? Our second duo features two of ISHLT’s past presidents, Lori West and Allan Glanville, engaging in a lively debate about how much risk we should take for the sake of our transplant recipients.

The majority of the meeting will be devoted to your submitted content. In anticipation of your contribution of high quality, novel scientific work, we plan to run research presentation sessions to showcase the highest scoring abstracts and mini-oral sessions and general poster sessions are planned to share your other excellent submitted work with our members.

I look forward to reviewing your abstract submissions and welcoming you to sunny San Diego for the 37th ISHLT Annual Meeting and Scientific Sessions!

With best regards,

Jeffrey Teuteberg, MD
ISHLT 37th Annual Meeting Scientific Program Chair
ABOUT
International Society for Heart and Lung Transplantation
The International Society for Heart and Lung Transplantation (ISHLT) is a not-for-profit, multidisciplinary, professional organization dedicated to improving the care of patients with advanced heart or lung disease through transplantation, mechanical support, and innovative therapies via research, education and advocacy.

ISHLT was created in 1981 at a small gathering of about 15 cardiologists and cardiac surgeons. Today we have over 3400 members from over 45 countries, representing over 15 different professional disciplines involved in the management and treatment of end-stage heart and lung disease. This multinational, multidisciplinary mix is one of the biggest strengths of the Society. It brings greater breadth and depth to our educational offerings and provides an exceptional environment for networking and exchanging information on an informal basis.

The purposes of the Society are:

1. To associate persons interested in the fields of heart and lung transplantation, end-stage heart and lung disease, and related sciences.
2. To encourage and stimulate basic and clinical research in these disciplines and to promote new therapeutic strategies.
3. To hold scientific meetings featuring presentations and discussions relevant to these disciplines.
4. To sponsor a scientific journal for the publication of manuscripts related to these disciplines.
5. To establish and maintain an international registry for heart and lung transplantation.
6. To award research grants and establish endowments for the study of these disciplines.

Our members include anesthesiologists, basic scientists, cardiologists, cardiothoracic surgeons, ethicists, immunologists, nurses, pathologists, perfusionists, pharmacists, pulmonologists, tissue engineers, transplant coordinators and infectious disease specialists. Despite their differing specializations, all ISHLT members share a common dedication to the advancement of the science and treatment of end-stage heart and lung disease.
Stay at the official ISHLT meeting hotel and be in the heart of all of the action! An exclusive ISHLT room rate has been negotiated with the Manchester Grand Hyatt Hotel San Diego. The discounted rate is subject to availability and is guaranteed until March 14, 2017. After this date, all rooms will be released back to the hotel for public sale. HOTEL RESERVATIONS CAN BE MADE ONLINE: https://resweb.passkey.com/go/IntlSocHeartLung2017.

GROUP RESERVATIONS: Any request of 10 or more rooms must be submitted in writing to Lisa Edwards, lisa.edwards@ishlt.org and approved by ISHLT. A credit card will be required to reserve a block of rooms.

The ISHLT 37th Annual Meeting and Scientific Sessions will be held at the Manchester Grand Hyatt Hotel San Diego, California.

Registration for the meeting must be made via the ISHLT website http://www.ishlt.org/meetings/registrationHousingAndTourForms.asp or via the Official ISHLT Registration Form. Online registration is strongly encouraged. A $300 discount off the on-site registration fee is offered to those who register on or before February 22, 2017. A $150 discount off the on-site registration fee is offered to those who register between February 23 and March 17, 2017. Individuals who have not registered on or before March 17, 2017 must register on-site at the meeting. A confirmation letter will be emailed to all individuals who register on or before March 17, 2017. An Official ISHLT Registration Form is included in this booklet on page 87 and may also be obtained from our website http://www.ishlt.org/meetings/registrationHousingAndTourForms.asp. The registration fee includes admission into all scientific sessions, and the Exhibit Hall. The registration fee also includes coffee breaks each day and entry to Exhibit Hall receptions.
The President’s Cocktail Reception will be held Thursday, April 6 from 8:00-9:30 pm at the USS Midway Museum, the longest-serving US Navy aircraft carrier of the twentieth century. The USS Midway is located alongside the historic Navy Pier at 910 North Harbor Drive. While there you’ll have the opportunity to see more than 30 restored naval aircraft on the flight deck and two Hangar Bays where you’ll be able to see cockpit exhibits and even experience a flight simulator.

Admittance to this event requires an advance ticket purchase. As always, you can look forward to plenty of food, drink, music and seeing friends.
The International Society for Heart and Lung Transplantation (ISHLT) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians and allied health professionals. ISHLT designates this live activity for a maximum of 32 AMA PRA Category 1 Credits™. Participants should claim only the credit commensurate with the extent of their participation in the activity.

Continuing Education Points for Transplant Certification (CEPTC) will be applied for.

Continuing Pharmacy Education Credits (CPE) will be applied for.

Amedco is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center’s Commission on Accreditation. This course is co-provided by Amedco and the International Society for Heart and Lung Transplantation (ISHLT). Maximum of 32.00 contact hours.
DISCLOSURE

Current guidelines state that participants in continuing medical and allied health profession education activities must be made aware of any affiliation or financial interest that may affect the program content or a speaker’s presentation. Planners, Faculty and Chairs participating in this meeting are required to disclose to the program audience any real or apparent conflict(s) of interest related to the content of their presentations or service as Chair/Planner. These disclosures will be distributed at the meeting. Additionally, all speakers have been asked to verbally disclose at the start of their presentation any financial interest or affiliations and to indicate if a product they are discussing is not labeled for the use under discussion or is still investigational.

EDUCATIONAL OBJECTIVES

The International Society for Heart and Lung Transplantation is a leading organization providing education for medical professionals involved in heart and lung transplantation. Because of the rapid advances in medicine in general and transplantation medicine specifically, transplant professionals are in need of regular opportunities to update and maintain their knowledge of advances and changes in transplant medicine. This meeting is designed to address their needs.

EDUCATIONAL GOALS

The educational goals of this activity are: to enable participants to learn about current practices, emerging technologies, and medical advances related to heart and lung transplantation and end-stage heart and lung disease and to provide a forum for participants to engage in discussion, debate, and examination regarding the efficacy and applicability of these current practices, emerging technologies and medical advances.
TARGET AUDIENCE
The audience for this program includes physicians, surgeons, scientists, pharmacists, nurses, transplant coordinators and other allied health and social science professionals engaged in the practice of heart and lung transplantation, the management and treatment of heart and lung transplant recipients, the management and treatment of patients with end-stage heart or lung disease, basic science or clinical research related to these fields, or specialties which cause them to become involved in the treatment of transplant recipients or patients with end-stage heart or lung disease.

LEARNING OBJECTIVES
1. At the conclusion of this meeting, participants will have improved competence and professional performance in the areas of understanding the latest information and approaches regarding transplant research, surgical techniques, medical therapies, donor management and patient management for the treatment of patients suffering from end-stage heart and lung disease.
2. At the conclusion of this meeting, participants will have improved competence and professional performance in the areas of understanding the state-of-the-art treatment approaches, risk factors, risk management approaches, patient selection criteria, disease prevention strategies, outcome implications and psychosocial management strategies for patients with end-stage heart and lung failure.
3. At the conclusion of this meeting, participants will have improved competence and professional performance in the areas of understanding emerging technologies, medical advances and the clinical applications of basic science models of end-stage heart and lung disease management and prevention.
To help you navigate your way through the meeting content and find those sessions most likely to be of interest to you, we have coded each session according to the primary professional audience it was designed for.

These codes are explained as follows:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BSTR</td>
<td>Basic Science and Translational Research</td>
</tr>
<tr>
<td>EEP</td>
<td>Economics, Ethics, Public Policy</td>
</tr>
<tr>
<td>HF</td>
<td>Heart Failure Adult</td>
</tr>
<tr>
<td>HTX</td>
<td>Heart Transplantation Adult</td>
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<tr>
<td>ID</td>
<td>Infectious Diseases</td>
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<tr>
<td>LTX</td>
<td>Lung Transplantation Adult</td>
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<tr>
<td>MCS</td>
<td>Mechanical Circulatory Support Adult</td>
</tr>
<tr>
<td>NHSAH</td>
<td>Nursing, Heath Science and Allied Health</td>
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<tr>
<td>PATH</td>
<td>Pathology</td>
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<td>Peds</td>
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<td>PHARM</td>
<td>Pharmacy and Pharmacology</td>
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<td>PH</td>
<td>Pulmonary Hypertension</td>
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<tr>
<td>CASE</td>
<td>Junior Faculty Clinical Case Reports</td>
</tr>
<tr>
<td>LBCS</td>
<td>Late Breaking Clinical Science</td>
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SYMPOSIUM HIGHLIGHTS

of the 2017 Annual Meeting
BASIC SCIENCE AND TRANSLATIONAL RESEARCH
The basic science and translational research symposia will feature diverse and dynamic speakers who are internationally recognized leaders in the field. We hope that each session will bring together in one room basic scientists as well as clinical researchers and clinicians who wish to further discuss and explore topics in heart and lung failure and transplantation. In Not CAVING to CLAD-tastrophy: Emerging Mechanisms in Chronic Heart and Lung Allograft Disease, experts will review endothelial biology, innate immunity, and antibody-based immunology in both heart and lung allograft dysfunction. The speakers will also explore the potential clinical implications of the available data. How to Mend a Broken Heart: Approaches for Cardiac Regeneration will be an exciting state-of-the-art set of lectures by thought-provoking speakers and experts in tissue engineering and cell therapy for heart failure who will discuss hurdles and perspectives of stem cell therapy on the way to clinical application. We will explore the evolving field of the microbiome in Living in a ‘Bacterial’ World: Microbiome in Thoracic Transplantation. The intricacies of the microbiome’s effects on health disease, on post-transplant immunity, and specifically on heart and lung transplantation will be addressed. In addition to these three primary symposia, other talks focused on basic and translational research have been incorporated into other symposia in order to create a well-rounded, high-quality program for the attendees.

HEART FAILURE AND TRANSPLANTATION
Our goal is to advance attendee’s knowledge of specific heart failure entities and controversies in heart transplantation. We begin with Cardiogenic Shock: Types, Teams and Tactics – defining shock types, care delivery and bridging strategies. Three additional symposia: 1) Getting to the Heart of Muscular Dystrophies, 2) Chagasic Cardiomyopathy: Lessons to Be Learned, and 3) The Tsunami of Adult Congenital Heart Disease Patients Who Need Advanced Therapies: Are We Prepared? – will explore less well known but growing etiologies of heart failure and their management, including the use of circulatory support and implications for post-transplant management. As an international community, we share a donor organ shortage, and the symposium Making Every Heart Count will discuss optimizing the use of donor organs. Controversy remains about when to proceed with combined heart-lung, heart-kidney, or heart-liver transplantation, topics that will be tackled in A Tale of Two Organs: Selecting and Managing Multi-Organ Transplant Recipients. To round things out, two symposia will be devoted to topics where consensus conferences have been held, but we still have a lot to learn: PGD and Vasoplegia After Heart Transplantation: Sink or Swim and Dealing with Antibodies Before and After Heart Transplant: Do We Have New Arrows in our Quiver? Join us in San Diego for the opportunity of a lifetime to learn from each other!
ID content at ISHLT 2017 will kick off with the ISHLT Academy: Core Competencies in Infectious Diseases all day on Tuesday (separate registration required). The remainder of the meeting will feature an exciting line-up of ID content throughout the program, concentrated on the first two days of the meeting to make access to the presentations as convenient as possible for those ID specialists who cannot commit a week away from work. We start with a joint symposium featuring ISHLT and ESCMID speakers discussing Ongoing Challenges in Transplant Infectious Diseases, including fungi, multidrug resistant bacteria, and viruses including HCV, HIV and EB. Following that we present Those Darn CARVs and learn about respiratory viruses in lung transplantation, the clinical and basic science correlations with CLAD, as well as treatment options and novel therapeutics in the pipeline. We then go Around the World in 80 Days to learn from experts about transplantation in areas endemic for Zika virus, tuberculosis, and HBV along with providing valuable advice for our patients when they travel. Mycobacterium abscessus has come of age with its very own symposium where we learn about Taming of the Shrew, with talks on epidemiology, clinical manifestations, and therapeutics. We end with a fiery debate to settle the issue of whether patients infected with M. abscessus can be safely transplanted. Other content that will be of interest to ID attendees includes a symposium dedicated to Chagasic cardiomyopathy, a sunrise symposium on HIV and cardiothoracic transplantation, and presentations on the respiratory microbiome and virome analysis for monitoring of post-transplant immune status.
LUNG TRANSPLANTATION

In times of a changing landscape in lung transplant management, this year’s lung transplant symposia will focus on important universal themes, including careful recipient selection, sensible donor allocation, safe peri-transplant ECMO use, pragmatic post-transplant treatment strategies and meticulous post-transplant follow-up. Excellent speakers will highlight the do’s and don’ts in *There Is No Such Thing as Perfect: Selecting Recipients for Lung Transplantation*, with emphasis on non-standard, controversial, rare or difficult transplant referrals. Recent results of implementing the 2015 US Lung Allocation Score model will be discussed in *Lung Allocation Scores: Making the Complex Simple, or Just the Simple Complex?*, but will also address how to further improve equity in organ allocation world-wide. Practicalities and controversies of ECMO bridging to transplant, as well as its post-transplant use, will be debated in *ECMO in Lung Transplantation: Sensational Success or Fantastic Failure?* Light will be shed on novel post-transplant treatment strategies in *Extracorporeal Photophoresis: Shedding Light on Rejection?* and in *Bench to Bedside: How Advances in Immunobiology Shape the Care of Today’s Lung Transplant Recipients*. Finally, the need for a holistic approach to patient care will be addressed in *Thinking Outside the Box: Extra-Pulmonary Management in Lung Transplantation*, focusing on the most common extra-pulmonary problems encountered in lung transplant recipients during follow-up. We are convinced that the meaningful reflections on these themes presented during this meeting will positively shape the daily care of all our lung transplant recipients.
MECHANICAL CIRCULATORY SUPPORT

New ideas in MCS will be presented at ISHLT 2017 in San Diego. The symposium Mechanical Circulatory Support – The Interface of Design and Outcome will discuss the physical possibilities and ideas involved in designing mechanical pumps to perform better, reduce adverse events and become better connected to patients. In To Pulse or Not to Pulse? That is the Question, we will focus on the impact of pulsatility on brain and blood vessel function, as well as the design and rationale for pulsatile and counterpulsation technology. Dr. Mandeep Mehra will talk about pulsatility from a scientific and existential perspective. Walk with Me: Exercise Physiology in the VAD Patient will look at the physiology of exercise in LVAD patients, delving into the increasingly complex world of antibodies in MCS patients. More LVAD complications will be explored in the Aiming off Target symposium, focusing on the non-cardiac consequences of LVADs. Finally, a joint ISHLT/ICCAC symposium will involve members from both societies looking at optimizing outpatient strategies in managing LVAD patients. With these and other symposia, we believe the ISHLT 2017 MCS symposia will have something for everyone.

NURSING, HEALTH SCIENCES AND ALLIED HEALTH

Optimizing outcomes is a multidisciplinary endeavor that needs investments along the transplant continuum. Pre-transplant, there are many psychosocial risk factors that can be targeted for intervention. When Should We Call It Quits? The Efficacy of Interventions to Ameliorate Psychosocial Risk Factors will review the efficacy of treatments available to ameliorate psychosocial risk factors. The state-of-the-art of e-health technology in delivering care will be discussed in E-health, Wearables, Social Media and Big Data in Transplantation: Fancy Toys or True Care Innovations? Interactive communication options via social media and the value of the big data for transplantation will also be explored. Patient Reported Outcomes (PRO) are increasingly used to capture outcomes in transplantation. Completing the Picture: Patient Reported Outcomes as an Essential Source of Information in Evaluating Transplantation Outcomes will provide insights in the concept, measurement and application of PROs. Outcomes of pediatric transplant patients may be jeopardized due to specific challenges related to neurocognitive development, problems in communication with health care workers, and transition. Live Long and Prosper: Thriving after Pediatric Transplantation will focus on the psychosocial, behavioral challenges, as well as communication and developmental issues in pediatric transplant patients. Specific attention will be given to adolescence and models for transition.
**PEDIATRIC THORACIC TRANSPLANTATION AND HEART FAILURE**

Difficult clinical situations sometimes require complex solutions. This year, the pediatric symposia will delve into difficult clinical situations that we all face in our practices. *The Failing Fontan: Where Do We Go from Here?* will discuss optimization of Fontan patients prior to transplant, timing of transplant listing, and multi-organ transplant options, as well as examine programmatic issues with taking on Fontan patients. *HLA, AMR and DSA – Approaching Antibodies in Kids* will examine antibodies before and after transplant, including how to measure antibodies, how to manage the allosensitized patient before transplant, and how to handle donor-specific antibodies and antibody-mediated rejection. *Upcoming Opportunities and Challenges in Pediatric Lung Transplantation* will address bridging to lung transplant via ECMO, changing indications in pediatric lung and heart-lung transplant, the limits of ABO-incompatible lung transplantation and the Potts shunt in children with pulmonary hypertension. Lastly, *Live Long and Prosper: Thriving after Pediatric Transplantation* will include discussions of neurodevelopmental outcomes, the role of exercise and sports, recommendations for communicating with teenagers and young adults, and approaches for transition of children to adult transplant care.

**PATHOLOGY**

This year’s pathology symposium, *Let’s Get Personal! Precision Diagnostics in Thoracic Transplantation*, combines pathology and basic science and covers the topical issue of precision medicine/diagnosis for delivering personalized treatment, molecular diagnosis including cell free DNA (liquid biopsies), microRNA, next generation sequencing and transcriptome analysis of biopsy material. A highlight will be the future possibilities with genome editing using CRISPR-Cas9 technology. A Sunrise Symposium, *Mixed Rejection (MR) of the Cardiac Allograft: The Next Frontier*, will discuss the relevance of mixed cellular and antibody mediated rejection in relation to diagnosis, management and clinical outcomes.
PULMONARY HYPERTENSION

Pulmonary hypertension is once again at the forefront of the ISHLT Scientific Sessions with six outstanding and provocative symposia! Symposia will explore current controversies in chronic thromboembolic disease, intricacies of ECMO in pre-capillary pulmonary hypertension, as well as novel cardiopulmonary hemodynamics and their impact on right ventricular and kidney function. A sunrise symposium will highlight similarities and differences in treatment of children and adults with pulmonary hypertension focusing on the strategies to adopt from each other’s practices. This year, we present a unique joint symposium of the ISHLT in partnership with the Pulmonary Hypertension Association (PHA) which, along with the always exciting Great Debates in Pulmonary Hypertension, are two symposia that are NOT TO BE MISSED!

We look forward to seeing you in sunny San Diego!

PHARMACY & PHARMACOLOGY

Pharmacy and pharmacology will be the buzz of the meeting with four symposia appealing to all areas of the ISHLT membership. In our Thursday afternoon symposium, Weeding Out Fact from Fiction: Exploring the Highs and Lows of Marijuana Use in the Transplant Population, we will explore whether or not marijuana in all its forms is actually detrimental for our patients and how programs can navigate this legal and clinical minefield. Back by popular demand, join us at the Thursday Sunrise symposium for Lifecycle Journey of Thrombosis in Mechanical Circulatory Support Patients. We discuss the latest insights into the science of thrombus formation and how surgical techniques and medications can combine to give the best outcomes for our patients. The HOPE act assures that HIV and Transplantation Isn’t Going Away and our Friday Sunrise symposium focuses the clinician on this vital topic. Experts will provide clarity on the burning questions including: How should end-stage HIV associated lung and heart disease be optimally managed? What unique infectious risks do HIV positive donors and recipients present, and how can the transplant and HIV medications be managed in tandem to optimize care? During our Saturday Sunrise session, Pregnant – Scared? So Are We, an expert panel will present the facts of life for our female transplant and CHD populations, many of whom can now consider pregnancy. We will present the best and safest multidisciplinary management of pregnancy after transplantation.
Schedule At A Glance

All meetings and activities will take place at the Manchester Grand Hyatt Hotel unless otherwise specified. All papers will be presented in English.

Please check the ISHLT web site http://www.ishlt.org/meetings/annualMeeting.asp for updates.

The ISHLT 2017 mobile app, which will be available approximately two weeks prior to the Annual Meeting and the Final Program Pocket Guide, which is distributed on site, will reflect the very latest session schedule and room assignments.
**TUESDAY | APRIL 4, 2017**

6:30 AM – 7:00 PM  
Academy Registration  
(SEAPORT FOYER)

6:00 AM – 8:00 PM  
Speaker Ready Room Open  
(BALBOA ABC)

7:45 AM – 1:00 PM  
ISHLT Academy: Master Class in Mechanical Circulatory Support  
(SEAPORT F AND SEAPORT G)

8:00 AM – 2:00 PM  
ISHLT Board of Directors Meeting  
(CITY VIEW AB)

**WEDNESDAY | APRIL 5, 2017**

7:00 AM – 6:15 PM  
Registration Open  
(SEAPORT FOYER)

7:00 AM – 10:00 AM  
Exhibitor Set-Up  
(HARBOR A-H)

8:00 AM – 6:00 PM  
Poster Session 1 Mount  
(SEAPORT, HARBOR AND CORONADO FOYERS)

8:00 AM – 10:00 AM  
SYMPOSIUM 01:  
Joint ISHLT/ICCAC Symposium: Besides the Surgery – How to Make VAD Patients Successful  
(SEAPORT A-E) (MCS, HF, HTX, NHSAH)

SYMPOSIUM 02:  
When Should We Call It Quits? The Efficacy of Interventions to Ameliorate Psychosocial Risk Factors  
(GRAND HALL A) (HTX, HF, MCS, NHSAH)

SYMPOSIUM 03:  
PGD and Vasoplegia After Heart Transplantation: Sink or Swim  
(GRAND HALL B) (HTX, HF, MCS)

SYMPOSIUM 04:  
Thinking Outside the Box: Extra-Pulmonary Management in Lung Transplantation  
(GRAND HALL C) (LTX, BSTR, ID, NHSAH, PATH, PEDS, PHARM, PH)
**SYMPOSIUM 05:**
Joint ISHLT/PHA Symposium: PH and Transplant: Where Do We Go From Here?
(GRAND HALL D) (PH, HF, HTX, LTX, MCS, NHSAH, PEDS)

**SYMPOSIUM 06:**
The Failing Fontan – Where Do We Go From Here?
(SEAPORT F-G) (PEDS, EEP, HF, HTX)

**SYMPOSIUM 07:**
Joint ISHLT/ESCMID Symposium: Ongoing Challenges in Transplant Infectious Diseases
(SEAPORT H) (ID, HTX, LTX, MCS, PHARM)

9:00 AM – 7:00 PM
Press Office Open
(OLD TOWN A)

10:00 AM – 10:30 AM
Coffee Break
(HARBOR A-H)

10:00 AM – 7:15 PM
Exhibit Hall Open
(HARBOR A-H)
Poster Hall Open
(SEAPORT, HARBOR AND CORONADO FOYERS)

10:30 AM – 12:30 PM
OPENING PLENARY
(SEAPORT A-E) (ALL)

12:30 PM – 2:30 PM
Lunch Break

12:30 PM – 2:30 PM
Nursing, Health Sciences and Allied Health Scientific Council Meeting
(GRAND HALL A)
Pulmonary Hypertension Scientific Council Meeting
(GRAND HALL D)
Pediatric Transplantation Scientific Council Meeting
(SEAPORT F-G)
Infectious Diseases Scientific Council Meeting
(CORONADO A-C)
Junior Faculty Mentor Lunch Meeting
(VISTA ABC)

Grants and Awards Committee Meeting
(GASLAMP A)
Education Committee Meeting
(GASLAMP B)
I2C2 Committee Meeting
(GASLAMP C)
Transplant Registry Committee Meeting
(GASLAMP D)

2:30 PM – 4:00 PM
ORAL SESSIONS

4:00 PM – 4:30 PM
Coffee Break
(HARBOR A-H)

4:30 PM – 6:00 PM
ORAL SESSIONS

**SYMPOSIUM 08:**
ECMO in Pre-Capillary PH: What is the Best Option for My Patient?
(GRAND HALL D) (PH, HF, LTX, PEDS, PH)

**SYMPOSIUM 09:**
JHLT at ISHLT: The Year in a Capsule
(CORONADO A-C) (ALL)

6:00 PM – 6:15 PM
Coffee Break
(HARBOR A-H)

6:15 PM – 7:15 PM
MINI ORAL SESSIONS
Exhibit Hall Opening Reception
(HARBOR A-H)

**MIXED POSTER SESSION 1**
(SEAPORT, HARBOR AND CORONADO FOYERS)

7:15 PM – 8:15 PM
Poster Session 1 Removal
(SEAPORT, HARBOR AND CORONADO FOYERS)

7:30 PM – 10:00 PM
ICCAC Annual Meeting
(GRAND HALL D)
Thursday | April 6, 2017

7:00 AM – 6:30 PM
Registration Open
(SEAPORT FOYER)

Speaker Ready Room Open
(BALBOA ABC)

7:00 AM – 8:00 AM
Junior Faculty and Trainee Scientific Council Meeting
(GASLAMP A-C)

7:00 AM – 10:00 AM
Poster Session 2 Mount
(SEAPORT, HARBOR AND CORONADO FOYERS)

7:00 AM – 8:00 AM
SUNRISE SYMPOSIUM 01:
Walk With Me: Exercise Physiology in the LVAD Patient
(GRAND HALL A)

SUNRISE SYMPOSIUM 02:
Chagasic Cardiomyopathy: Lessons To Be Learned
(GRAND HALL B)

SUNRISE SYMPOSIUM 03:
Lifecycle Journey of Thrombosis in Mechanical Circulatory Support Patients
(GRAND HALL C)

SUNRISE SYMPOSIUM 04:
Completing the Picture: Patient Reported Outcomes (PROs) as an Essential Source of Information in Evaluating Transplantation Outcomes
(GRAND HALL D)

SUNRISE SYMPOSIUM 05:
Upcoming Opportunities and Challenges in Pediatric Lung Transplantation
(SEAPORT F-G)

SUNRISE SYMPOSIUM 06:
“Those Darn CARVs:” Community Acquired Respiratory Viruses in Lung Transplant
(CORONADO A-C)

8:00 AM – 10:00 AM
SYMPOSIUM 10:
Antibodies in Mechanical Circulatory Support: The Phantom Menace
(SEAPORT A-E)

SYMPOSIUM 11:
Not CAving to CLADtastrophy: Emerging Mechanisms of Chronic Heart and Lung Allograft Disease
(GRAND HALL A)

SYMPOSIUM 12:
A Tale of Two Organs: Selecting and Managing Multi-Organ Transplant Recipients
(GRAND HALL B)

SYMPOSIUM 13:
Lung Allocation Scores: Making the Complex Simple, or Just the Simple Complex?
(GRAND HALL C)

SYMPOSIUM 14:
CTEPH: Current Controversies and New Directions
(GRAND HALL D)

SYMPOSIUM 15:
HLA, AMR and DSA – Approaching Antibodies in Kids
(SEAPORT F-G)

SYMPOSIUM 16:
“Around the World in 80 Days:” Infectious Challenges in Cardiothoracic Transplantation
(CORONADO A-C)

9:00 AM – 7:00 PM
Press Office Open
(OLD TOWN A)

10:00 AM – 10:30 AM
Coffee Break
(HARBOR A-H)

10:00 AM – 7:15 PM
Exhibit Hall Open
(HARBOR A-H)
Poster Hall Open
(SEAPORT, HARBOR AND CORONADO FOYERS)
10:30 AM – 12:30 PM
PLENARY SESSION
(SEAPORT A-E)

12:30 PM – 2:00 PM
Lunch Break

12:30 PM – 2:00 PM
Mechanical Circulatory Support
Scientific Council Meeting
(GRAND HALL A)

Pulmonary Transplantation
Scientific Council Meeting
(GRAND HALL C)

Pharmacy and Pharmacology
Scientific Council Meeting
(SEAPORT F-G)

JHLT Editorial Board Lunch Meeting
(SEAVIEW A-C)

Registries and Databases Committee
Lunch Meeting
(GASLAMP D)

International Pediatric Heart
Failure Registry Meeting
(OLD TOWN B)

2:00 PM – 3:30 PM
ORAL SESSIONS

3:30 PM – 4:00 PM
Coffee Break
(HARBOR A-H)

2018 Symposium Planning Committee Meeting
(GASLAMP D)

4:00 PM – 6:00 PM
SYMPOSIUM 17:
To Pulse or Not To Pulse? That is the Question
(SEAPORT A-E) (ALL)

SYMPOSIUM 18:
Weeding Out Fact from Fiction - the Highs and
Lows of Marijuana Use in Transplant
(GRAND HALL A) (PHARM, ALL)

SYMPOSIUM 19:
Cardiogenic Shock: Types, Teams and Tactics
(GRAND HALL B) (HF, HTX, MCS)

SYMPOSIUM 20:
ECMO in Lung Transplantation: Sensational
Success or Fantastic Failure?
(GRAND HALL C) (LTX, ALL)

SYMPOSIUM 21: Cardiopulmonary
Hemodynamics, the Right Ventricle, and
the Kidney: Connecting All the Dots
(GRAND HALL D) (PH, HF, HTX, LTX, MCS)

SYMPOSIUM 22:
Let’s Get Personal! Precision Diagnostics in
Thoracic Transplantation
(SEAPORT F-G) (PATH, ALL)

SYMPOSIUM 23:
Taming of the Shrew: Mycobacterium
Abscessus in Lung Transplantation
(CORONADO A-C) (ID, ALL)

6:00 PM – 6:15 PM
Coffee Break
(HARBOR A-H)

6:00 PM – 7:00 PM
Past President’s Meeting
(GASLAMP D)

6:15 PM – 7:15 PM
MINI ORAL SESSIONS
Wine and Cheese Reception
(HARBOR A-H)

MODERATED POSTER SESSION 2
(SEAPORT, HARBOR AND CORONADO FOYERS)

7:15 PM – 8:15 PM
Poster Session 2 Removal
(SEAPORT, HARBOR AND CORONADO FOYERS)

8:00 PM – 9:30 PM
President’s Cocktail Reception
USS MIDWAY MUSEUM
(NAVY PIER AT 910 NORTH HARBOR DRIVE)
7:00 AM – 6:30 PM
Registration Open
(SEAPORT FOYER)

Speaker Ready Room Open
(BALBOA ABC)

7:00 AM – 10:00 AM
Poster Session 3 Mount
(SEAPORT, HARBOR AND CORONADO FOYERS)

7:00 AM – 8:00 AM
SUNRISE SYMPOSIUM 07: Getting to the Heart of Muscular Dystrophies
(GRAND HALL A) (ALL)

SUNRISE SYMPOSIUM 08: Live Long and Prosper: Thriving After Pediatric Transplantation
(GRAND HALL B) (PEDS, EEP, HTX, LTX, MCS, NHSAH, PHARM)

SUNRISE SYMPOSIUM 09: Mixed Rejection (MR) of the Cardiac Allograft: The Next Frontier
(GRAND HALL C) (PATH, BSTR, HF, HTX)

SUNRISE SYMPOSIUM 10: Contrasts and Similarities in Children and Adults: IPAH, Portopulmonary Hypertension, and Perioperative Management
(GRAND HALL D) (PH, BSTR, HF, LTX, NHSAH, PEDES, PHARM)

SUNRISE SYMPOSIUM 11: There is No Such Thing as Perfect: Selecting Recipients for Lung Transplantation
(SEAPORT G-H) (LTX, ID, NHSAH, PEDS)

SUNRISE SYMPOSIUM 12: HIV and Transplantation: It Isn’t Going Away...
(CORONADO A-C) (PHARM, HTX, ID, LTX, NHSAH, PEDS, PH)

8:00 AM – 9:30 AM
ORAL SESSIONS

9:00 AM – 7:00 PM
Press Office Open
(OLD TOWN A)

9:30 AM – 10:00 AM
Annual Business Meeting
(SEAPORT A-E)

Coffee Break
(HARBOR A-H)

9:30 AM – 4:00 PM
Exhibit Hall Open
(HARBOR A-H)

9:30 AM – 6:45 PM
Poster Hall Open
(SEAPORT, HARBOR AND CORONADO FOYERS)

10:00 AM – 11:30 AM
ORAL SESSIONS

11:30 AM – 1:30 PM
Lunch Break

11:30 AM – 1:30 PM
Heart Failure and Transplantation Scientific Council Meeting
(GRAND HALL B)

Basic Science and Translational Research Scientific Council Meeting
(SEAPORT G-H)

Pathology Scientific Council Meeting
(CORONADO A-C)

IMACS Users Group Meeting
(GASLAMP A-C)

DCD Registry Committee Lunch Meeting
(GASLAMP D)

1:30 PM – 3:30 PM
SYMPOSIUM 24: Aiming Off Target: Non-Cardiac Consequences of LVAD Support
(SEAPORT A-E) (MCS, BSTR, HF)

SYMPOSIUM 25: Dealing with Antibodies Before and After Heart Transplant: Do We Have New Arrows in our Quiver?
(GRAND HALL A) (ALL)

SYMPOSIUM 26: Making Every Heart Count
(GRAND HALL B) (HTX, EEP, HF, HTX)
SYMPOSIUM 27: Bench to Bedside: How Advances in Immunology Shape the Care of Today’s Lung Transplant Recipients (GRAND HALL C) (LTX, BSTR, HTX, ID, NHSAH, PATH, PEDS, PHARM)

SYMPOSIUM 28: Great Debates in Pulmonary Hypertension (GRAND HALL D) (PH, ALL)

SYMPOSIUM 29: How to Mend a Broken Heart: Approaches for Cardiac Regeneration (SEAPORT G-H) (BSTR, HF, HTX, PATH, PHARM)

SYMPOSIUM 30: E-health, Wearables, Social Media and Big Data in Transplantation: Fancy Toys or True Care Innovations? (CORONADO A-C) (NHSAH, ALL)

3:30 PM – 4:00 PM 
Coffee Break (HARBOR A-H)

4:00 PM – 5:30 PM ORAL SESSIONS

5:30 PM – 5:45 PM 
Coffee Break (SEAPORT FOYER)

5:45 PM – 6:45 PM MINI ORAL SESSIONS

MODERATED POSTER SESSION 3 (SEAPORT, HARBOR AND CORONADO FOYERS)

6:45 PM – 7:45 PM Poster Session 3 Removal (SEAPORT, HARBOR AND CORONADO FOYERS)

7:00 AM – 1:30 PM
Speaker Ready Room Open (BALBOA ABC)

7:00 AM – 8:00 AM SUNRISE SYMPOSIUM 13: Mechanical Circulatory Support – The Interface of Design and Outcome (GRAND HALL A) (MCS, BSTR, EEP, HF, HTX)

SUNRISE SYMPOSIUM 14: The Tsunami of ACHD Patients Who Need Advanced Therapies: Are We Prepared? (GRAND HALL B) (HTX, HF, LTX, MCS, PEDS, PH)

SUNRISE SYMPOSIUM 15: Extracorporeal Photopheresis: Shedding Light on Rejection? (GRAND HALL C) (LTX, BSTR, HTX, ID, NHSAH, PATH, PEDS, PHARM)

SUNRISE SYMPOSIUM 16: Pregnant – Scared? So Are We... Management of Pregnancy in Our Complex Patients (SEAPORT G-H) (PHARM, HTX, LTX, MCS, NHSAH, PEDS)

SUNRISE SYMPOSIUM 17: Living in a ‘Bacterial’ World: Microbiome in Thoracic Transplantation (CORONADO A-C) (BSTR, ALL)

8:00 AM – 9:30 AM ORAL SESSIONS

9:30 AM – 9:45 AM Coffee Break (SEAPORT FOYER)

9:45 AM – 11:45 AM PLENARY SESSION (SEAPORT A-E) (ALL)

11:45 AM – 12:00 PM Coffee Break (SEAPORT FOYER)

12:00 PM – 1:30 PM ORAL SESSIONS

12:00 PM – 6:00 PM ISHLT Board of Directors Meeting (CITY VIEW AB)
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>9:00 AM</td>
<td>Welcome Address and Introductions</td>
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<tr>
<td>9:30 AM</td>
<td>Plenary Session</td>
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<td>10:30 AM</td>
<td>Scientific Session</td>
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<td>12:00 PM</td>
<td>Lunch</td>
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<td>1:30 PM</td>
<td>ISHLT Academies</td>
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<tr>
<td>3:00 PM</td>
<td>Scientific Session</td>
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<td>5:00 PM</td>
<td>Closing Remarks</td>
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<td>6:00 PM</td>
<td>Banquet and Awards Ceremony</td>
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## Daily Time Table

### TUESDAY, APRIL 4

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<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Grand Hall A</th>
<th>Grand Hall B</th>
<th>Grand Hall C</th>
<th>Seaport F</th>
<th>Seaport G</th>
<th>Seaport &amp; Palm Foyers</th>
<th>Balboa ABC</th>
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<tbody>
<tr>
<td>6:00 AM</td>
<td>ISHLT Academy: PED and Adult Congenital MCS Core Competency Course</td>
<td>7:45 am - 6 pm</td>
<td>ISHLT Academy: ID Core Competency Course</td>
<td>7:45 am - 1 pm</td>
<td>ISHLT Academy: MCS Master Class</td>
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**Annual Meeting Registration Open**
3:00 pm - 7:00 pm
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<tr>
<th>TIME</th>
<th>MANCHESTER GRAND HYATT HOTEL</th>
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<td>Board of Directors Meeting</td>
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<td>1:45 pm - 6:50 pm</td>
<td>ISHLT ACADEMY: MCS Master Class</td>
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<td>2:00 PM - 5:00 pm</td>
<td>Leadership Orientation Mtg.</td>
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<td>Standards and Guidelines Committee Mtg.</td>
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## Scientific Sessions • ISHLT Academies

### Daily Time Table

**Wednesday, April 5**

#### Manchester Grand Hyatt Hotel

<table>
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<tr>
<th>Time</th>
<th>Seaport A-E</th>
<th>Grand Hall A</th>
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<td><strong>Symposium 01</strong>&lt;br&gt;ISHLT/ICCAC</td>
<td><strong>Symposium 02</strong>&lt;br&gt;NHSAH Psychosoc Risk</td>
<td><strong>Symposium 03</strong>&lt;br&gt;HEART PGD/Vasoplegia</td>
<td><strong>Symposium 04</strong>&lt;br&gt;LUNG Extra Pulm Mgt</td>
<td><strong>Symposium 05</strong>&lt;br&gt;PH ISHLT/PHA</td>
<td><strong>Symposium 06</strong>&lt;br&gt;PEDS Failing Fontan</td>
<td><strong>Symposium 07</strong>&lt;br&gt;ID ISHLT/ESCMID</td>
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<td><strong>LUNG</strong>&lt;br&gt;Oral</td>
<td><strong>Symposium 08</strong>&lt;br&gt;PH ECMO in PH</td>
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# Wednesday, April 5

**Manchester Grand Hyatt Hotel**

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<thead>
<tr>
<th>Room</th>
<th>CORONADO A-C</th>
<th>HARBOR A-H</th>
<th>SEAPORT, HARBOR CORONADO FOYERS</th>
<th>VISTA ABC</th>
<th>GASLAMP A</th>
<th>GASLAMP B</th>
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**FRIDAY, APRIL 7**

**MANCHESTER GRAND HYATT HOTEL**

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- **Poster Mount**
  - 7 am - 10 am

- **Exhibit Hall Open**
  - 9:30 am - 4 pm

- **Poster Hall Open**
  - 9:30 am - 6:45 pm

- **IMACS User Meeting**
  - DCD Reg Meeting

- **Exhibit Hall Strike**
  - 4 pm - 11 pm

- **Poster Session 3**
  - 5:45 pm - 6:45 pm

- **Poster Removal**
  - 6:45 pm - 7:45 pm

- **Poster Strike**
  - 7:45 pm - 11 pm
## Daily Time Table

**Saturday, April 8**

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### STRIKE
- **Exhibit Hall Strike**
  - **7 am - 1 pm**

### OPEN
- **7 am - Noon**
- **7 am - 1:30 pm**

### ISHLT Board of Directors Meeting
- **Noon - 6 pm**
- **Noon - 5 pm**
- **1:30 pm - 5 pm**
SYMPOSIUM 01: Joint ISHLT/ICCAC Symposium: Besides the Surgery – How to Make VAD Patients Successful

(Seaport A-E) (MCS, HF, HTX, NHSAH)

Chair: Ivan Netuka, MD, PhD and Thomas Schlöglhofer, BSc

Session Summary: This session, supported by a collaborative effort with the International Consortium of Circulatory Assist Clinicians (ICCAC), is designed to discuss questions frequently asked by MCS Teams around the world regarding multidisciplinary program structure, practice guidelines, VAD education including simulation labs, cost-effectiveness and international aspects in care delivery from a program perspective, and with patients, families and staff caring for them.

8:00 AM Multidisciplinary Approaches to Optimize VAD Patient Management in High Volume Centers

Friedrich Kaufmann, MSc, German Heart Institute, Berlin, Germany

8:12 AM Q&A

8:17 AM Caring for the Pediatric VAD Patient – They’re Not Just Small Adults

Jodie Lantz, MSN, RN, PCNS-BC, Children’s Health Dallas, Dallas, TX, USA

8:29 AM Q&A

8:34 AM Keep Them at Home: Interventions to Prevent Readmission

Lori Edwards, RN, MN, Inova Fairfax Hospital, Richmond, VA, USA

8:46 AM Q&A

8:51 AM Measuring and Managing Blood Pressure in CF-LVAD Recipients

Brent C. Lampert, DO, Ohio State University, Columbus, OH, USA

9:03 AM Q&A

9:08 AM Echocardiography in LVAD Recipients: How and What to Measure?

Peter J. Bergin, MBBS, FRACP, Alfred Hospital, Melbourne, Australia

9:20 AM Q&A

9:25 AM Optimizing Unloading with Right Heart Catheterisation Ramp Studies

Nir Uriel, MD, University of Chicago, Chicago, IL, USA

9:37 AM Q&A

9:42 AM Do We Need Antiplatelet Drugs and Anticoagulants to Manage LVAD Patients?

Haifa Lyster, MSc, Royal Brompton Harefield Hospital, Middlesex, United Kingdom

9:54 AM Q&A

SYMPOSIUM 02: When Should We Call It Quits? The Efficacy of Interventions to Ameliorate Psychosocial Risk Factors

(Grand Hall A) (HTX, HF, MCS, NHSAH)

Chair: Lavanya Bellumkonda, MD and Jane MacIver, RN, NP, PhD

Session Summary: This session will start by briefly reviewing the literature on psychosocial risk factors including: psychiatric illness, poor social support, medical non-adherence and substance abuse. The majority of the presentations will, however, focus on the interventions available to mitigate the risks associated with each variable and the efficacy of those interventions. Thus, the focus is how to use the psychosocial assessment as a means of problem identification for intervention rather than as a gate keeping function. A panel discussion with all speakers will conclude this session.

8:00 AM The Impact of Psychiatric Risk Factors on Outcomes in Heart Failure, MCS and Cardiothoracic Transplant Patients

Heike Spaderna, PhD, University of Trier, Trier, Germany

8:15 AM The Efficacy of Interventions for Psychiatric Risk Factors in Cardiothoracic Transplantation and MCS

Quincy Young, PhD, RPsych, St. Paul’s Hospital, Vancouver, BC, Canada

8:30 AM It Takes a Village: Social Support and Social Determinants of Health in MCS and Cardiothoracic Transplantation as Potential Targets for Intervention

Michael G. Petty, PhD, RN, CNS, University of Minnesota Medical Center, Minneapolis, MN, USA

8:45 AM When Do We Call It Quits: Intervention Strategies and Outcomes for Medical Non-Adherence

Mary Amanda Dew, PhD, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

9:00 AM Are All Substances Made Equal?

Andrea DiMartini, MD, University of Pittsburgh, Pittsburgh, PA, USA

9:15 AM Case Presentation (Part 1): The Good, The Bad and The Ugly

Jany Baumwol, MBBS, FRACP, Fiona Stanley Hospital, Murdoch, Australia

9:25 AM Q&A

9:30 AM Case Presentation (Part 2): The Good, The Bad and The Ugly

Gillian Coult, PhD, Alfred Hospital, Melbourne, Australia

9:40 AM Q&A

9:45 AM Panel Discussion

SYMPOSIUM 03: Primary Graft Dysfunction (PGD) and Vasoplegia After Heart Transplantation: Sink or Swim

(Grand Hall B) (HTX, HF, MCS)

Chair: Scott Silvestry, MD and Hermann Reichenspurner, MD, PhD

Session Summary: The session goals are to review the existing and updated knowledge on primary graft dysfunction (PGD) and vasoplegia after heart transplantation. The presentations include: review of the published literature and ISHLT 2014 PGD definitions; the UK prospective PGD study; donor, recipient and surgical risk factors; as well as experiences with post-transplant vasoplegia, with possible lessons learned from non-transplant heart surgery. There will be a 30-minute panel discussion at the end.

8:00 AM Review of the Published Literature and the ISHLT 2014 PGD Definition

Jon A. Kobashigawa, MD, Cedars-Sinai Heart Institute, Los Angeles, CA, USA

8:15 AM Review of Risk Factors for PGD: Donor, Recipient and Surgical Procedure

Jennifer Cook, MD, University of Arizona, Tucson, AZ, USA

8:30 AM First Prospective Observational Study on PGD: UK The Heart Evaluation and Retrieval for Transplantation Study

Andre R. Simon, MD, PhD, Harefield Hospital, London, United Kingdom

8:45 AM Vasoplegia after Adult Heart Transplantation and MCS Surgery

Maria M. Patarroyo Aponte, MD, Allegheny General Hospital, Pittsburgh, PA, USA

9:00 AM Severe PGD and Post-Operative Vasoplegia: Complications on the Same Spectrum or Different Entities?

Hiroo Takayama, MD, Columbia University, New York, NY, USA

9:15 AM What Can We Learn from Non-Transplant Cardiac Surgery?

Paul J. Mohacsi, MD, University Hospital, Bern, Switzerland

9:30 AM Panel Discussion
### Session 4: Thinking Outside the Box: Extra-Pulmonary Management in Lung Transplantation

**Location:** GRAND HALL C

**Chairs:** Adrian C Lawrence, MD and Helen Whitford, MBBS, FRACP

**Summary:** Gastrointestinal complications, extra-pulmonary factors or concurrent systemic disorders may compromise long-term outcome following lung transplantation. This session highlights new paradigms of disease understanding, diagnosis, treatment, prevention and possibilities for investigational trial design.

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<th>Time</th>
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<tr>
<td>8:00 AM</td>
<td>Gastro-Intestinal Dysmotility in Thoracic Organ Transplantation Revisited: Importance, Evaluation, Treatment</td>
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<td></td>
<td>Frank D’Ovidio, MD, Columbia University, New York, NY, USA</td>
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<td>8:20 AM</td>
<td>Q&amp;A</td>
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<td>8:24 AM</td>
<td>Gastro-Intestinal Malignancies in Thoracic Organ Transplantation: Collateral Damage?</td>
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<td>Monique Malouf, MD, St. Vincent’s Hospital, Sydney, Australia</td>
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<td>8:44 AM</td>
<td>Q&amp;A</td>
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<td>8:48 AM</td>
<td>New Lungs – Old Sinuses: Friends or Foes?</td>
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<td>Joseph M. Pilewski, MD, University of Pittsburgh Medical Center, Pittsburgh, PA, USA</td>
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<td>9:08 AM</td>
<td>Q&amp;A</td>
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<td>9:12 AM</td>
<td>Lung Transplantation in Systemic Disorders: Need for a Holistic Approach</td>
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<td>Joseph P. Lynch, III, MD, UCLA Medical Center, Los Angeles, CA, USA</td>
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<td>9:32 AM</td>
<td>Q&amp;A</td>
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<td>9:36 AM</td>
<td>Pregnancy After Thoracic Organ Transplantation: Unwanted but Unavoidable?</td>
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<td>Mitesh Thakrar, MD, Alberta Lung Transplant Program, Calgary, AB, Canada</td>
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### Session 5: Joint ISHLT/PHA Symposium: PH and Transplant: Where Do We Go From Here?

**Location:** GRAND HALL D

**Chairs:** Oksana A. Shlobin, MD and Karen Fagan, MD

**Summary:** Lung transplantation is a viable treatment option for Group 1 pulmonary arterial hypertension (PAH). In addition, the presence of a secondary forms of PH (Group 2 or 3) in patients who require heart or lung transplant confers a high risk of complications. This symposium, supported by a collaborative effort with the Pulmonary Hypertension Association (PHA), will address various aspects of lung transplantation in adult and pediatric patients with different forms of PH.

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<tr>
<td>8:00 AM</td>
<td>Transplantation for PH in the Era of LAS</td>
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<td>Roham Zamanian, MD, Stanford University, Stanford, CA, USA</td>
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<td>8:15 AM</td>
<td>Q&amp;A</td>
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<td>8:20 AM</td>
<td>Effect of Non-Group 1 Pulmonary Hypertension on Lung Transplantation</td>
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<td>Jorn Carlsen, MD, DMSc, Copenhagen University Hospital, Copenhagen, Denmark</td>
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<td>8:35 AM</td>
<td>Q&amp;A</td>
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<td>8:40 AM</td>
<td>Saving the Lung: Liver Transplant in Portopulmonary Hypertension</td>
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<td>Sonja Bartolome, MD, UT Southwestern Medical Center, Dallas, TX, USA</td>
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<td>Q&amp;A</td>
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<td>9:00 AM</td>
<td>Oops: Pregnancy in Pulmonary Hypertension</td>
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<td>Valerie McLaughlin, MD, University of Michigan, Ann Arbor, MI, USA</td>
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<td>9:20 AM</td>
<td>Challenging Choices: Switching Between IV and Oral Prostanoid Therapy</td>
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<td>Joel Wirth, MD, Maine Medical Center, Portland, ME, USA</td>
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<td>9:35 AM</td>
<td>Q&amp;A</td>
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<td>9:40 AM</td>
<td>Quality of Life is Most Important: Patient Related Outcomes in PH</td>
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<td>Mardi Gomberg-Maitland, MD, Inova Heart and Vascular Institute, Falls Church, VA, USA</td>
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### Session 6: The Failing Fontan – Where Do We Go From Here?

**Location:** SEAPORT F-G

**Chairs:** Thomas Moller, MD, PhD and Steven Kindel, MD

**Summary:** The aim is to discuss the care of the Fontan patient with heart failure across the spectrum, from pre-transplant medical management to mechanical support and heart transplantation. Timing of transplantation and listing, multi-organ transplantation and listing, and listing policies will all be discussed. Finally, a difficult case will be presented to the expert speaker panel at the end of the session.

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<tr>
<td>8:00 AM</td>
<td>Sustainable Palliation: Optimizing Fontan Patients Prior to Heart Transplant</td>
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<td>Jack Rychik, MD, Children’s Hospital of Philadelphia, Philadelphia, PA, USA</td>
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<td>8:15 AM</td>
<td>Q&amp;A</td>
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<td>8:20 AM</td>
<td>Call for Help! Surgical Options for End-Stage Fontan Failure</td>
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<td>Asif Hasan, MD, Freeman Hospital, Newcastle Upon Tyne, United Kingdom</td>
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<td>Do You Want to List Too Early or Too Late? How to Determine When Fontan Patients Should Be Listed for Transplant</td>
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<td>Claire Irving, MBChB, MRCPCH, MD, Children’s Hospital at Westmead, Sydney, Australia</td>
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<td>Q&amp;A</td>
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<td>9:00 AM</td>
<td>It’s Not JUST the Heart: Multi-Organ Transplantation in Fontan Patients</td>
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<td>Daniel N. Bernstein, MD, Stanford University, Stanford, CA, USA</td>
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<td>Richard Kirk, FRCP, FRCPCH, UT Southwestern Medical Center, Dallas, TX, USA</td>
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<td>Q&amp;A</td>
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<td>9:40 AM</td>
<td>Case Presentation – The Failing Fontan Patient</td>
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<td>Kathleen Simpson, MD, Washington University and Saint Louis Children’s Hospital, St. Louis, MO, USA</td>
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<td>9:55 AM</td>
<td>Panel Discussion</td>
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SYMPOSIUM 07: Joint ISHLT/ESCMID Symposium: Ongoing Challenges in Transplant Infectious Diseases
(SEAPORT H)
(ID, HTX, LTX, MCS, PHARM)

CHAIRS: Lara Danziger-Isakov, MD, MPH and Oriol Manuel, MD

SESSION SUMMARY: This session, supported by a collaborative effort with the European Society of Clinical Microbiology and Infectious Diseases (ESCMID), will provide important insight on relevant issues surrounding the care of thoracic organ transplant candidates and recipients and patients on mechanical circulatory support with infections.

8:00 AM Non-Cultural Methods for Diagnosis and Prevention of Invasive Fungal Infections: Are We There Yet?
Barbara Alexander, MD, Duke University, Durham, NC, USA

8:15 AM Q&A

8:20 AM Role of Inhaled Antimicrobials in the Era of Multidrug Resistance
Benoit Guery, MD, University Hospital Vaudois, Lausanne, Switzerland

8:35 AM Q&A

8:40 AM Infection in Thoracic Organ Transplant Recipients on ECMO
Nicolas Mueller, MD, University Hospital Zurich, Zurich, Switzerland

8:55 AM Q&A

9:00 AM Hepatitis C in Donor and Thoracic Organ Transplant Candidates and Recipients: A New Horizon
Paolo A. Grossi, MD, PhD, University of Insubria, Varese, Italy

9:15 AM Q&A

9:20 AM Experience in HIV Infection in Thoracic Organ Transplantation and MCS
Shirish Huprikar, MD, Mount Sinai Medical Center, New York, NY, USA

9:35 AM Q&A

9:40 AM EBV and Anellovirus Viremia as Markers of Risk of Infection in Lung Transplant Recipients
José María Aguado, MD, Hospital 12 de Octubre, Madrid, Spain

9:55 AM Q&A

10:30 AM – 12:30 PM
OPENING PLENARY SESSION
(SEAPORT A-E)
(ALL)

CHAIRS: Jeffrey J Teuteberg, MD and Maryl R Johnson, MD

10:30 AM Welcome/Program Chair Report
Jeffrey J. Teuteberg, MD, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

10:35 AM Thoracic Registry Report
Josef Stehlik, MD, MPH, University of Utah School of Medicine, Salt Lake City, UT, USA

10:55 AM MCSD Registry Reports
James L. Kirklin, MD, University of Alabama, Birmingham, AL, USA

11:05 AM President’s Report
Maryl R. Johnson, MD, University of Wisconsin School of Medicine, Madison, WI, USA

11:20 AM Featured Abstract

11:35 AM Interactive Discussant

11:40 AM Featured Abstract

11:55 AM Interactive Discussant

12:00 PM PIONEER AWARD RECIPIENT LECTURE: Experiences of the Beginning
Stuart W. Jamieson, MB, FRCS, UC San Diego Health System, La Jolla, CA, USA

2:30 PM – 4:00 PM
ORAL SESSIONS

4:30 PM – 6:00 PM
ORAL SESSIONS

WEDNESDAY
APRIL 5, 2017
SYMPOSIUM 09: JHLT at ISHLT: The Year in a Capsule
(CORNADO A-C)
(ALL)

CHAIRS: Duane Davis, MD, MBA and Martin Schweiger, MD, PhD

SESSION SUMMARY: This session will highlight the most impactful publications in JHLT over the past year. Following the presentation of each publication by a member of the Junior Faculty and Trainee Council a senior editorial consultant of the JHLT will relate the presented articles to the greater body of published literature and discuss how they advance our understanding of the field.

4:30 PM Introduction and Recognition of Top Papers of the Year
Patricia Uber, PharmD, Virginia Commonwealth University, Richmond, VA, USA

4:40 PM Highlights of Heart Transplantation and Mechanical Circulatory Support
Agnieszka Ciarka, MD, Catholic University of Leuven, Leuven, Belgium

4:55 PM Senior Editor Perspective: Heart Transplantation and Mechanical Circulatory Support
Hermann Reichenspurner, MD, PhD, University Heart Centre Hamburg, Hamburg, Germany

5:00 PM Highlights of Lung Transplantation and Pulmonary Hypertension
Hrishikesh S. Kulkarni, MD, Washington University School of Medicine, St. Louis, MO, USA

5:15 PM Senior Editor Perspective: Lung Transplantation and Pulmonary Hypertension
Andrew J. Fisher, FRCP, PhD, Freeman Hospital, Newcastle upon Tyne, United Kingdom

5:20 PM Highlights of Pediatric Heart and Lung Transplantation
Erin Albers, MD, Seattle Children’s Hospital, Seattle, WA, USA

5:35 PM Senior Editor Perspective: Pediatric Heart and Lung Transplantation
Jennifer Conway, MD, Stollery Children’s Hospital, Edmonton, AB, Canada

5:40 PM Highlights of Infectious Diseases
Saima Aslam, MD, MS, UCSD Medical Center, San Diego, CA, USA

5:55 PM Senior Editor Perspective: Infectious Diseases
Margaret Hannan, MD, Mater Misericordiae University Hospital, Dublin, Ireland
SUNRISE SYMPOSIUM 01: Walk With Me: Exercise Physiology in the LVAD Patient
(GRAND HALL A)
(MCS, ALL)

CHAIRS: Christopher S. Hayward, MD and Jorge Silva Enciso, MD

SESSION SUMMARY: Ventricular assist devices improve functional class and quality of life due to its impact on exercise capacity. Long-term LVAD support is associated with improved central hemodynamics and exercise performance. Although, the maximal effects on functional performance continue to be marginal, pump flow changes and cardiac output augmentation does occur during exercise. Understanding the basis of exercise physiology in LVAD patients may allow for future interventions to enhance exercise performance.

7:00 AM  Invasive Exercise Hemodynamic Evaluation in LVAD Patients
David M. Kaye, MD, PhD, Alfred Hospital, Melbourne, Australia

7:10 AM  Q&A

7:15 AM  Factors Influencing Exercise Performance in LVAD Patients
Stuart D. Russell, MD, Johns Hopkins Hospital, Baltimore, MD, USA

7:25 AM  Q&A

7:30 AM  Pulsatility and Exercise Performance in Continuous vs. Pulsatile Flow
Christopher S. Hayward, MD, St. Vincent’s Hospital, Sydney, Australia

7:40 AM  Q&A

7:45 AM  Right Ventricular Function During Exercise in LVAD Patients
Finn Gustafsson, MD, PhD, University Hospital Rigshospitalet, Copenhagen, Denmark

7:55 AM  Q&A

SUNRISE SYMPOSIUM 02: Chagasic Cardiomyopathy: Lessons To Be Learned
(GRAND HALL B)
(HF, HTX, ID, MCS)

CHAIRS: Alejandro M. Bertolotti, MD and Stanley Martin, MD

SESSION SUMMARY: The cardiaform of Chronic Chagas Disease is responsible for inability to work, low quality of life and death among infected individuals. Chagas disease currently affects approximately 8 to 11 million people in South America, Central America and Mexico, and approximately 80 million people are at risk for contracting the illness. Although an estimated 300,000 persons with Chagas disease live in the United States, little is known about the burden of Chagasic heart disease. A 12-minute panel discussion with all speakers will conclude this session.

7:00 AM  Chronic Chagas Disease and Chagasic Cardiomyopathy
Anna K. Sa, MD, Pro Cardiac Hospital, Rio de Janeiro, Brazil

7:12 AM  Arrhythmic Storm as the First and Last Manifestation of Chagas Disease
Fabiana G. Marcondes-Braga, MD, PhD, Heart Institute, Sao Paulo, Brazil

7:24 AM  Heart Transplant in Chagasic Cardiomyopathy: How to Manage Immunosuppression
Fernando Baical, MD, PhD, University of Sao Paulo, Sao Paulo, Brazil

7:36 AM  Reactivation of Chagas Post-Transplant: Diagnosis and Pharmaceutical Management
Lisa P. Peters, PharmD, MedStar Washington Hospital Center, Washington, DC, USA

7:48 AM  Panel Discussion

SUNRISE SYMPOSIUM 03: Lifecycle Journey of Thrombosis in Mechanical Circulatory Support Patients
(GRAND HALL C)
(PHARM, HF, HTX, MCS, NHSAH)

CHAIRS: Stephan Schueler, MD, PhD, FRCS and Christina T. Doligalski, PharmD, BCPS

SESSION SUMMARY: This lifecycle journey is an enduring case with 3 defined points. The time points discussed include implantation and management strategies that influence thrombotic risk; management of anticoagulation including review of current therapy, potential novel therapies and appropriate monitoring; the anatomy of the clot and potential mechanisms of thrombosis in MCS.

7:00 AM  Lifecycle Journey Case Presentation
Christina T. Doligalski, PharmD, BCPS, Tampa General Hospital, Tampa, FL, USA

7:03 AM  Influence of Surgical Techniques on Pump Thrombosis: How Physics Can Help Patient Management
Thomas Krabatsch, MD, PhD, German Heart Institute, Berlin, Germany

7:18 AM  Lifecycle Journey Case Update
Christina Doligalski, PharmD, BCPS

7:19 AM  Prevention of Thrombosis in Mechanical Support: Where Are We Going?
Ed Horn, PharmD, Allegheny General Hospital, Pittsburgh, PA, USA

7:34 AM  Lifecycle Journey Case Update
Christina Doligalski, PharmD, BCPS

7:35 AM  What Pathology Can Tell Us About Mechanisms of Thrombosis
Lisa Baumann Kreuziger, MD, Medical College of Wisconsin, Milwaukee, WI, USA

7:50 AM  Panel Discussion
Sunrise Symposium 04: Completing the Picture: Patient Reported Outcomes (PROs) as an Essential Source of Information in Evaluating Transplantation Outcomes
(Grand Hall D)

Chairs: Maria R. Molina, MSN, CRNP, CCRN and James Kirklin, MD

Session Summary: Patient Reported Outcomes (PRO) are increasingly used to capture the outcomes of transplant recipients and living donors and have become an inherent part of the evaluation of transplant programs’ quality assessment and performance improvement. PROs drive patient centered outcomes research (PCOR). The aim of this session is to explain the concept of patient reported outcomes, how PROs are measured and developed and how PROs are assessed to successfully perform PCOR. Further it will provide a number of examples on the use of PROs in clinical practice, research and quality assessment and performance and in clinical practice.

7:00 AM The Crucial Importance of PROs for Transplant Evaluation from a Clinical, Research and Quality Assurance Perspective
Linda Ohler, MSN, FAAN, George Washington University, Washington, DC, USA

7:15 AM Q&A

7:20 AM State of the Art Development of PRO Assessments for Patient Centered Outcomes Research (PCOR)
Sabina M. De Geest, RN, PhD, University of Basel, Basel, Switzerland

7:35 AM Q&A

7:40 AM PROs in Pediatric Transplant Patients: Special Issues
Kathleen L. Grady, PhD, APN, FAAN, Northwestern Memorial Hospital, Chicago, IL, USA

7:55 AM Q&A

Sunrise Symposium 05: Upcoming Opportunities and Challenges in Pediatric Lung Transplantation
(Seaport F-G)

Chairs: Marc G. Schecter, MD and Christian Benden, MD, FCCP

Session Summary: Over recent years, outcomes after lung transplantation in children have improved. Against this background, new challenges arise and new opportunities come up. At this symposium, selection criteria and bridging strategies to lung transplantation for critically ill neonates are discussed, and overall changing indications for pediatric lung transplantation given the decreasing number of children with cystic fibrosis referred for it. In addition, alternative approaches to lung transplant such as Potts-shunts in children with severe pulmonary arterial hypertension are reviewed, and strategies debated to increase the donor pool, for example ABO incompatible lung transplantation in smaller children.

7:00 AM Bridge over Troubled Water: ECMO for the Critically Ill Newborn as a Bridging Strategy to Transplantation – Who is the Right Candidate?
S Stuart C. Sweet, MD, PhD, St. Louis Children's Hospital, St. Louis, MO, USA

7:12 AM Q&A

7:15 AM New Kids on the Block: Is There a Change of Indications for Pediatric Lung and Heart-Lung Transplantation?
Bart L. Rottier, MD, University Medical Center Groningen, Groningen, Netherlands

7:27 AM Q&A

7:30 AM ABO Incompatible Lung Transplantation in Infants and Small Children to Expand the Donor Pool: Where is the Age Limit and What Has To Be Considered?
Melinda P. Solomon, MD, FRCPC, Hospital for Sick Children, Toronto, ON, Canada

7:42 AM Q&A

7:45 AM Potts-Shunt in Children with Severe PAH: A Promising Procedure to Avoid Lung Transplantation?
Maria C. Gazzaneo, MD, Texas Children's Hospital, Houston, TX, USA

7:57 AM Q&A

Sunrise Symposium 06: “Those Darn CARVs:” Community Acquired Respiratory Viruses in Lung Transplantation
(Coronado A-C)

Chairs: Pali Shah, MD and Aric L. Gregson, MD

Session Summary: Respiratory viruses following lung transplantation are a common occurrence and can range from the common cold to fulminant respiratory failure. Respiratory viruses have also been implicated in the development of Chronic Lung Allograft Dysfunction (CLAD), the most significant cause of mortality following lung transplantation. Available therapies are limited, however, as is the data supporting their use. Improved understanding of the host response to respiratory viruses may help contribute to the novel therapeutics.

7:00 AM Respiratory Viruses and CLAD: Epidemiology and Clinical Data
Erika Lease, MD, University of Washington, Seattle, WA, USA

7:10 AM Q&A

7:15 AM Respiratory Viruses and CLAD: Pathogenesis and Host Response
Tereza Martinu, MD, Toronto General Hospital/UHN, Toronto, ON, Canada

7:25 AM Q&A

7:30 AM To Treat or Not to Treat: A Critical Review of Currently Available Therapies
Allan Glanville, MBBS, MD, FRACP, St. Vincent's Hospital, Sydney, Australia

7:40 AM Q&A

7:45 AM In the Pipeline: Novel Therapeutics
Christopher Ensor, PharmD, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

7:55 AM Q&A
### 8:00 AM – 10:00 AM

**SYMPOSIUM 10:** Antibodies in Mechanical Circulatory Support: The Phantom Menace  
*(SEAPORT A-E)*  
*(MCS, BSTR, HF, HTX, PEDS, PHARM)*  

**CHAIRS:** Jon A. Kobashigawa, MD and Andreas Zuckermann, MD  

**SESSION SUMMARY:** As the number of patients requiring mechanical circulatory support (MCS) increases, allosensitization in this population presents a special challenge as it limits options for transplantation. This session will discuss the nature of sensitization in MCS patients, epidemiology, risk of the sensitized MCS patient, therapeutic options and post-transplant management. A 20-minute panel discussion with all speakers will conclude this session.

#### 8:00 AM  
**Is the MCS Device Immuno-modulatory?**  
Elaine F. Reed, PhD, UCLA Immunogenetics Center, Los Angeles, CA, USA

#### 8:20 AM  
**Sensitization in the Pediatric MCS Population**  
Francesco Parisi, MD, Bambino Gesù Pediatric Hospital, Rome, Italy

#### 8:40 AM  
**Approach to the Sensitized MCS Patient: Desensitization and Other Strategies**  
Jignesh K. Patel, MD, PhD, Cedars-Sinai Heart Institute, Los Angeles, CA, USA

#### 9:00 AM  
**Epidemiology and Risk of the Sensitized MCS Patient**  
Michael Shullo, PharmD, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

#### 9:20 AM  
**What Happens to the Antibodies After Heart Transplant?**  
Howard Eisen, MD, Drexel University, Philadelphia, PA, USA

#### 9:40 AM  
**Panel Discussion**

**SYMPOSIUM 11:** Not CAVing to CLADtastrophy: Emerging Mechanisms of Chronic Heart and Lung Allograft Disease  
*(GRAND HALL A)*  
*(BSTR, HTX, LTX, PATH, PHARM)*  

**CHAIRS:** Elizabeth H. Hammond, MD and Christopher H. Wigfield, MD, FRCS  

**SESSION SUMMARY:** In this session, we will examine factors which have been recently implicated in coronary artery vasculopathy and chronic lung allograft dysfunction. Donor and recipient innate immune responses, autoimmune responses triggered by alloimmunity, and the pivotal role of endothelium and micro-vasculature will be explored. The goal of the session is to identify new pathologic and molecular targets for treatment in both cardiac allograft vasculopathy (CAV) and Chronic Lung Allograft Dysfunction (CLAD). Importantly, this session will examine parallels between chronic processes in the transplanted heart and lung and bring together research and clinical experts in lung and heart transplantation.

#### 8:00 AM  
**Pivotal Role of the Endothelium in CAV**  
Daniel Jane-Wit, MD, PhD, Yale School of Medicine, New Haven, CT, USA

#### 8:15 AM  
**Q&A**

#### 8:20 AM  
**Critical Effect of Airway Microvasculature on CLAD Development**  
Mark R. Nicolls, MD, Stanford University, Stanford, CA, USA

#### 8:35 AM  
**Q&A**

#### 8:40 AM  
**DAMPs, PAMPs and Innate Immunity in CAV**  
Joren C. Madsen, MD, DPhil, Massachusetts General Hospital, Boston, MA, USA

#### 8:55 AM  
**Q&A**

#### 9:00 AM  
**DAMPs, PAMPs and Innate Immunity in CLAD**  
Scott M. Palmer, MD, MHS, Duke University, Durham, NC, USA

#### 9:15 AM  
**Q&A**

#### 9:20 AM  
**Antibodies in CAV: The Role of Autoimmunity in Alloimmunity**  
Christine M. Lin, MD, Mayo Clinic, Rochester, MN, USA

#### 9:35 AM  
**Q&A**

#### 9:40 AM  
**Antibodies and B Cells in Pathogenesis of CLAD**  
Masaaki Sato, MD, University of Tokyo, Tokyo, Japan

#### 9:55 AM  
**Q&A**

### 8:00 AM – 10:00 AM

**SYMPOSIUM 12:** A Tale of Two Organs: Selecting and Managing Multi-Organ Transplant Recipients  
*(GRAND HALL B)*  
*(HTX, ALL)*  

**CHAIRS:** Teresa De Marco, MD and Jose Gonzalez-Costello, MD  

**SESSION SUMMARY:** This session will use a combination of lectures and debates to highlight treatment options for patients who have primary thoracic organ failure and secondary end-organ dysfunction. Appropriate selection and management of multi-organ recipients will be discussed. In addition, speakers will address unique challenges faced in multi-organ transplantation, including a review of the policies and ethical considerations in allocating multiple organs to a single individual. A 15-minute panel discussion will conclude this session.

#### 8:00 AM  
**Heart-Lung Transplantation: How Bad do the Ventricles Have to Be?**  
John J. Dunning, FRCS, Papworth Hospital, Cambridge, United Kingdom

#### 8:15 AM  
**DEBATE (PRO): Heart Transplant Candidates with Vulnerable Kidneys Should Undergo Combined Heart-Kidney Transplantation**  
Eugene C. DePasquale, MD, UCLA  
David Geffen School of Medicine, Los Angeles, CA, USA

#### 8:30 AM  
**DEBATE (CON): Heart Transplant Candidates with Vulnerable Kidneys Should Undergo Combined Heart-Kidney Transplantation**  
Marcelo Cantarovich, MD, McGill University Health Centre, Montreal, QC, Canada

#### 8:45 AM  
**DEBATE (PRO): Heart Transplant Candidates with Bridging Fibrosis Should Undergo Combined Heart-Liver Transplantation**  
Sudhir S. Kushwaha, MD, Mayo Clinic, Rochester, MN, USA

#### 9:00 AM  
**DEBATE (CON): Heart Transplant Candidates with Bridging Fibrosis Should Undergo Combined Heart-Liver Transplantation**  
Charles E. Canter, MD, St Louis Children’s Hospital, St. Louis, MO, USA

#### 9:15 AM  
**Thoracic and Abdominal Tug of War: Management of the Multi-Organ Transplant Recipient**  
Richard C. Daly, MD, Mayo Clinic, Rochester, MN, USA

#### 9:30 AM  
**Ethical Principles in Allocating Multiple Organs to One Recipient**  
Heather J. Ross, MD, MHSc, FRCP, Toronto General Hospital, Toronto, ON, Canada

#### 9:45 AM  
**Panel Discussion**
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 13: Lung Allocation Scores (LAS): Making the Complex Simple, or Just the Simple Complex? (GRAND HALL C) (LTX, ALL)</th>
<th>Session 14: Chronic Thromboembolic Pulmonary Hypertension (CTEPH): Current Controversies and New Directions (GRAND HALL D) (PH)</th>
<th>Session 15: HLA, AMR and DSA – Approaching Antibodies in Kids (SEAPORT F-G) (ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td><strong>CHAIRS:</strong> Kevin M. Chan, MD and Allan Glanville, MBBS, MD, FRACP</td>
<td><strong>CHAIRS:</strong> William Auger, MD and C. Dario Vizza, MD</td>
<td><strong>CHAIRS:</strong> Steven A. Webber, MBChB and Robert G. Weintraub, FRACP, FACC</td>
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<td>8:00 AM</td>
<td><strong>SESSION SUMMARY:</strong> This symposium highlights the lung allocation systems employed worldwide, describe changes in US lung allocation since the implementation of the LAS, review the results of the LAS by Eurotransplant, describe early results of the LAS revision, and discuss controversies on allocation equality raised by the LAS.</td>
<td><strong>SESSION SUMMARY:</strong> This symposium will review some of the key questions and controversial topics in patients with CTEPH in the preoperative and postoperative period.</td>
<td><strong>SESSION SUMMARY:</strong> The goal of this symposia is to educate transplant clinicians in the use of antibody testing in the assessment of patients who are candidates for transplant, and for assessment and treatment of Antibody Mediated Rejection (AMR) after transplant. The session will start with basic science background principles in HLA antibodies, and end with a case of an allosensitized patient, with a forum discussion by the experts.</td>
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<td>8:00 AM</td>
<td>Who Needs LAS Anyway? Lung Allocation Around the World Are Martin Holm, MD, Oslo University Hospital, Oslo, Norway</td>
<td>Out-of-Proportion Pulmonary Vascular Resistance (PVR): Operative Suitability and Perioperative Considerations Marc De Perrot, MD, Toronto General Hospital, Toronto, ON, Canada</td>
<td>Back to the Basics: HLA Antibodies, Donor-Specific Antibodies, and How to Measure Them Anat Roitburg-Tambur, DMD/PhD, Northwestern University, Chicago, IL, USA</td>
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<td>8:24 AM</td>
<td>Q&amp;A</td>
<td>Medical Therapy for CTEPH as “Bridge” to Surgery: Right or Wrong? Manreet Kanwar, MD, Allegheny General Hospital, Pittsburgh, PA, USA</td>
<td>8:15 AM Q&amp;A</td>
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<tr>
<td>8:44 AM</td>
<td>Q&amp;A</td>
<td>The Right Ventrical (RV) in CTEPH: How to Assess Before and After Pulmonary Endarterectomy Paul Forfia, MD, Temple University, Philadelphia, PA, USA</td>
<td>8:20 AM Q&amp;A</td>
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<td>8:48 AM</td>
<td>Modification of the USA LAS Model 2015: Early Results Leah Edwards, PhD, United Network for Organ Sharing (UNOS), Richmond, VA, USA</td>
<td>Chronic Thromboembolic Disease Without PH at Rest: Treat or Not? John Granton, MD, University of Toronto, Toronto, ON, Canada</td>
<td>8:35 AM Q&amp;A</td>
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<tr>
<td>8:48 AM</td>
<td>Q&amp;A</td>
<td>Residual PH after Pulmonary Endarterectomy (PEA): What Definition Should We Use? Joanna Pepke-Zaba, MD, Papworth Hospital, Cambridge, United Kingdom</td>
<td>8:40 AM Q&amp;A</td>
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<td>9:08 AM</td>
<td>Q&amp;A</td>
<td>Is Balloon Pulmonary Angioplasty (BPA) an Alternative or Complementary to PEA? Hiromi Matsubara, MD, PhD, Okayama Medical Center, Okayama, Japan</td>
<td>8:55 AM Q&amp;A</td>
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<td>9:12 AM</td>
<td>LAS in Eurotransplant: Towards a Uniform Approach? Jacqueline Smits, MD, PhD, Eurotransplant International Foundation, Leiden, Netherlands</td>
<td>After Transplant: What To Do With New DSA? Matthew Fenton, MRCPCH, Great Ormond Street Hospital for Children, London, United Kingdom</td>
<td>9:00 AM Q&amp;A</td>
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<td>9:32 AM</td>
<td>Q&amp;A</td>
<td>After Transplant: How to Diagnose and Treat AMR in Kids Melanie D. Everitt, MD, Children’s Hospital Colorado, Aurora, CO, USA</td>
<td>9:15 AM Q&amp;A</td>
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<td>9:36 AM</td>
<td>LAS Controversies: Improving Equity in Organ Allocation? Edward R. Garrity, Jr., MD, University of Chicago, Chicago, IL, USA</td>
<td>After Transplant: How to Manage an Allosensitized Patient to Transplant Ching Kit Chen, MBBS, MRCPCH, KK Women’s and Children’s Hospital, Singapore, Singapore</td>
<td>9:20 AM Q&amp;A</td>
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<td>9:56 AM</td>
<td>Q&amp;A</td>
<td>Case Presentation: Managing an Allosensitized Patient to Transplant Ching Kit Chen, MBBS, MRCPCH, KK Women’s and Children’s Hospital, Singapore, Singapore</td>
<td>9:35 AM Q&amp;A</td>
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<tr>
<td>9:56 AM</td>
<td>Q&amp;A</td>
<td>Panel Discussion</td>
<td>9:50 AM Panel Discussion</td>
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8:00 AM – 10:00 AM

**SYMPOSIUM 16:** “Around the World in 80 Days:” Infectious Challenges in Cardiothoracic Transplantation

(CORONADO A-C)
(ID, HF, HTX, LTX)

**CHAIRS:** Saima Aslam, MD, MS and Shahid Husain, MD, MS

**SESSION SUMMARY:** The rise of cardiothoracic (CT) transplantation in emerging countries has led to unique infectious challenges. The goal of the symposium is to understand the impact of locally endemic infections such as Zika virus, hepatitis B, and tuberculosis on CT transplant recipients in different areas of the world. The presentations will cover the scope of the problem, management strategies, outcomes and travel advice.

**8:00 AM** Perspective on Zika Virus and Other Emerging Infections from Latin America
Silvia V. Campos, MD, Heart Institute of Sao Paulo Medical School, Sao Paulo, Brazil

**8:20 AM** Q&A

**8:24 AM** Hepatitis B and Thoracic Transplantation
Emily A. Blumberg, MD, Hospital of the University of Pennsylvania, Philadelphia, PA, USA

**8:44 AM** Q&A

**8:48 AM** Screening and Management of Latent Tuberculosis
Subramanian Swaminathan, MD, MNAMS, Global Hospitals, Chennai/Bengaluru, India

**9:08 AM** Q&A

**9:12 AM** Treatment of Tuberculosis
Amparo Sole, MD, PhD, Hospital Universitario la Fe, Valencia, Spain

**9:32 AM** Q&A

**9:36 AM** Travel Advice for the Immunocompromised Traveler: Prophylaxis, Vaccination and Other Preventive Measures
Robin Avery, MD, Johns Hopkins Medicine, Baltimore, MD, USA

**9:56 AM** Q&A

**10:00 AM – 12:30 PM**

**PLENARY SESSION**
(SEAPORT A-E)
(ALL)

**CHAIRS:** Hermann Reichenspurner, MD, PhD and David O. Taylor, MD

10:30 AM Putting an End to Transplantation? Translating the Promise of Stem Cell Therapy into Practice
Brenda Ogle, PhD, University of Minnesota, Minneapolis, MN, USA

**10:50 AM** Featured Abstract

11:05 AM Interactive Discussant

11:10 AM Tweets, Texts and Posts: Does Social Media Improve or Complicate Communication in Medicine?
Dorry Segev, MD, PhD, Johns Hopkins School of Medicine, Baltimore, MD, USA

11:30 AM Share and Share Alike: Optimizing Organ Allocation in an Era of Increasing Need
Sommer Gentry, PhD, United States Naval Academy, Annapolis, MD, USA

**11:50 AM** Featured Abstract

12:05 PM Interactive Discussant

12:10 PM Metabolomics: New Tools to Understand Rejection
Brendan Keating, PhD, Hospital of the University of Pennsylvania, Philadelphia, PA, USA

12:30 PM Interactive Discussant

**2:00 PM – 3:30 PM**

**ORAL SESSIONS**

**4:00 PM – 6:00 PM**

**SYMPOSIUM 17:** To Pulse or Not To Pulse? That is the Question

(SEAPORT A-E)
(ALL)

**CHAIRS:** Paolo Colombo, MD and Bart Meyns, MD, PhD

**SESSION SUMMARY:** Human evolution has favored a pulsatile heart pump as the optimal way for organ perfusion. CF-LVAD physiology, with low to no pulsatility, has challenged that widely accepted notion. Although the present technology had been rapidly adapted, we are still hampered by morbidities that limit the expansion into the less sick group. Are we missing the pulse? Thus, methods to generate pulsatility and possibly create a hybrid between the man-made and mankind are presently being explored. A 15-minute panel discussion with all speakers will conclude this session.

4:00 PM Physiologic and Clinical Impact of Pulsatile vs. Nonpulsatile Flow on Blood Vessels and Vital Organs
Nader Moazami, MD, Cleveland Clinic, Cleveland, OH, USA

4:15 PM Physiologic and Clinical Impact of Pulsatile vs. Nonpulsatile Flow on the Brain
William K. Cornwell, III, MD, University of Colorado, Denver, CO, USA

4:30 PM Best Strategies to Measure Arterial Pulsatility and Tissue Perfusion in CF-LVAD Patients
Melana Yuzefpolskaya, MD, Columbia University, New York, NY, USA

4:45 PM Design and Rationale for New Pulsatile Technology
Stephen C. Koenig, PhD, University of Louisville, Louisville, KY, USA

5:00 PM Hemodynamic Effects of Counterpulsation
Navin K. Kapur, MD, Tufts Medical Center, Boston, MA, USA

5:15 PM Long-term Ambulatory Counterpulsation Using iVAS
Val Jeevanandam, MD, University of Chicago Medicine, Chicago, IL, USA

5:30 PM The Pulse of Life – A Scientific and Existential Perspective
Mandeep Mehra, MD, FRCP, FACC, FESC, Brigham and Women’s Hospital/Harvard Medical School, Boston, MA, USA

5:45 PM Panel Discussion
**SYMPOSIUM 18: Weeding Out Fact from Fiction – The Highs and Lows of Marijuana Use in Transplant**

**GRAND HALL A**

**PHARM, ALL**

**CHAIRS:** Adam Cochrane, PharmD and Vincent G. Valentine, MD

**SESSION SUMMARY:** Increasing prevalence of medicinal and recreational cannabis use among transplant recipients has sparked discussion on the legal and safety ramifications of use in this patient population. This symposium will discuss the pharmacology of cannabis as well as explore the data surrounding the legal ramifications and risk/benefits of cannabis use in transplantation.

**4:00 PM** The Pharmacology of a Weed: Clinical Pharmacology of Cannabis and Cannabinoids

Robert L. Page, PharmD, MSPH, University of Colorado, Denver, CO, USA

**4:15 PM** Q&A

**4:20 PM** Cannabis: Wonder-Drug or Devil’s Weed? The Psychosocial Impact of Cannabis Use Post-Transplant

Patrick Smith, PhD, Duke University Medical Center, Durham, NC, USA

**4:35 PM** Q&A

**4:40 PM** Cannabis Use and Graft Function: What Do We Know?

Lianne G. Singer, MD, FRCP, Toronto General Hospital, Toronto, ON, Canada

**4:55 PM** Q&A

**5:00 PM** But the Government Says I Can: Regulatory Implications of Legalizing Cannabis

Lorriana E. Leard, MD, UCSF Medical Center, San Francisco, CA, USA

**5:15 PM** Q&A

**5:20 PM** DEBATE (PRO): Cannabis Use Pre-Transplant – Don’t Judge Me!

Martin Zamora, MD, University of Colorado, Denver, CO, USA

**5:35 PM** DEBATE (CON): Cannabis Use Pre-Transplant – Don’t Judge Me!

Erik Am Verschuuren, MD, PhD, University Medical Centre Groningen, Groningen, Netherlands

**5:50 PM** DEBATE REBUTTAL (PRO)

Martin Zamora, MD

**5:55 PM** DEBATE REBUTTAL (CON)

Erik Am Verschuuren, MD, PhD

**SYMPOSIUM 19: Cardiogenic Shock: Types, Teams and Tactics**

**GRAND HALL B**

**HF, HTX, MCS**

**CHAIRS:** Lynn R Punnoose, MD and Marian Urban, MD

**SESSION SUMMARY:** Cardiogenic shock encompasses a broad clinical spectrum, including acute MI, primary RV failure and biventricular failure. This session will incorporate individual presentations describing (1) the spectrum and prevalence of cardiogenic shock subtypes, (2) national and international approaches to management and temporary mechanical support selection and (3) the interdisciplinary approach to device management involving heart failure, interventional, critical care and imaging cardiologists.

**4:00 PM** Phenotypes of Cardiogenic Shock: How to Move Beyond Anecdotes to Estimate Subtype Prevalence

Shelley A. Hall, MD, Baylor University Medical Center, Dallas, TX, USA

**4:15 PM** Q&A

**4:20 PM** Hemodynamics of Temporary MCS: Do They Help Guide Device Selection? What if You Don’t Have Them?

Gabriel Sayer, MD, University of Chicago, Chicago, IL, USA

**4:35 PM** Q&A

**4:40 PM** The Use of SHOCK Teams in Hospitals with Advanced Heart Failure Care

Jose N. Nativi, MD, University of Utah School of Medicine, Salt Lake City, UT, USA

**4:55 PM** Q&A

**5:00 PM** Refractory Ventricular Tachycardia (VT) with Hemodynamic Compromise: Temporary Device Choice and Ablative Options

A. Reshad Garan, MD, Columbia University, New York, NY, USA

**5:15 PM** Q&A

**5:20 PM** Weaning Temporary Mechanical Circulatory Support: Echocardiographic vs. Hemodynamic Parameters – This Is How We Do It

Jamie L. Kennedy, MD, University of Virginia Health System, Charlottesville, VA, USA

**5:35 PM** Q&A

**5:40 PM** Weaning Temporary Mechanical Circulatory Support: Echocardiographic vs. Hemodynamic Parameters – This Is How We Do It

Evgenij V. Potapov, MD, PhD, Berlin Heart Center, Berlin, Germany

**5:55 PM** Q&A

**SYMPOSIUM 20: ECMO in Lung Transplantation: Sensational Success or Fantastic Failure?**

**GRAND HALL C**

**LTX, ALL**

**CHAIRS:** Erika Berman Rosenzweig, MD and Reda E. Girgis, MD

**SESSION SUMMARY:** This symposium gives a state-of-the-art overview of the current ECMO technology, including cannulation strategies, patient selection, peri-operative and program management.

**4:00 PM** ECMO Technique: Configuration, Cannulae, Complications

Martin Strueber, MD, Michigan State University College of Human Medicine, East Lansing, MI, USA

**4:20 PM** Q&A

**4:24 PM** ECMO Candidate Selection for Elective ECMO

Vincent G. Valentine, MD, University of Colorado, Denver, CO, USA

**4:44 PM** Q&A

**4:48 PM** ECMO as Urgent Bridge to Transplant

Gregor Warnecke, MD, Hannover Medical School, Hannover, Germany

**5:08 PM** Q&A

**5:12 PM** Post-Operative ECMO for Rescue Therapy

Göran Dellgren, MD, Sahlgrenska University Hospital, Göteborg, Sweden

**5:32 PM** Q&A

**5:36 PM** ECMO Program Management: Bridge over Troubled Water?

David Michael McMullan, MD, Seattle Children’s Hospital, Seattle, WA, USA

**5:56 PM** Q&A
4:00 PM – 6:00 PM

SYMPOSIUM 21: Cardiopulmonary Hemodynamics, the Right Ventricle, and the Kidney: Connecting All the Dots
(GRAND HALL D)
(PH, HF, HTX, LTX, MCS)
CHAIRES: Ryan J. Tedford, MD and Marco Guazzi, MD, PhD
SESSION SUMMARY: This symposium reviews hot topics in hemodynamic assessment and management of patients with pulmonary hypertension including measures of pulmonay vascular compliance, the emerging role of right ventricular reserve assessment, and the interaction between right heart and kidney function. In the final two talks, the speakers debate the need for provocative testing in patients meeting hemodynamic criteria for Group I PAH but who have all least some phenotypic characteristics of group II PAH. A panel discussion with all speakers will conclude this session.

4:00 PM Forget About Pulmonary Vascular Resistance (PVR), Only Pulmonary Vascular Compliance Matters
Thenappan Thenappan, MD, University of Minnesota, Minneapolis, MN, USA

4:20 PM No Time to Rest: The Importance of Right Ventricular Reserve in Pulmonary Hypertension
Robert Naeije, MD, Université Libre de Bruxelles, Brussels, Belgium

4:40 PM The Cardiorenal Syndrome in Right Heart Failure: Just Central Venous Pressure (CVP) or More to the Story?
Maria Rosa Costanzo, MD, Midwest Heart Specialists-Advocate Medical, Naperville, IL, USA

5:00 PM Case Presentation: Age >65, mPAP>25mmHg, Borderline Pulmonary Artery Wedge Pressure (PAWP)
Rebecca Cogswell, MD, University of Minnesota, Minneapolis, MN, USA

5:05 PM DEBATE (PRO): It is Essential to Unmask PH Due to Left Heart Disease (LHD) with Volume Loading and/or Exercise Testing
Marc A. Simon, MD, University of Pittsburgh, Pittsburgh, PA, USA

5:25 PM DEBATE (CON): It is Essential to Unmask PH Due to Left Heart Disease (LHD) with Volume Loading and/or Exercise Testing
Susanna Mak, MD, PhD, Mount Sinai Hospital, Toronto, ON, Canada

5:45 PM Panel Discussion

4:00 PM – 6:00 PM

SYMPOSIUM 22: Let’s Get Personal! Precision Diagnostics in Thoracic Transplantation
(SEAPORT F-G)
(PATH, ALL)
CHAIRES: Patrick Bruneval, MD and Sean Agbor-Enoh, MD
SESSION SUMMARY: In recent years, methodologies of precision medicine have been applied to the study of post-transplant pathobiology. Basic molecular mechanisms involved in acute and chronic allograft rejection have been uncovered, and novel molecular tools for the non-invasive monitoring of heart and lung transplantation have been discovered. This symposium brings together state-of-the-art scientific speakers who lead the field as we make a transition to personalized transplant care.

4:00 PM Precision Medicine: Applying Circulating Cell-Free DNA to Monitor Transplant Health Outcomes
Hannah Valentine, MD, National Institutes of Health, Bethesda, MD, USA

4:15 PM Q&A

4:20 PM How to Use the Virome to Monitor Post-Transplant Immune Status
Iwijn De Vlaminck, PhD, Cornell University, Ithaca, NY, USA

4:35 PM Q&A

4:40 PM Tissue and Circulating Long-Noncoding RNA and MicroRNA in Thoracic Transplantation
Howard J. Eisen, MD, Drexel University College of Medicine, Philadelphia, PA, USA

4:55 PM Q&A

5:00 PM Transcriptomic Analysis of Endomyocardial Biopsies for Precision Diagnosis
Jean-Paul Duong Van Huyen, MD, Hospital Necker, Paris, France

5:15 PM Q&A

5:20 PM Next Generation Sequencing and Signatures: Applications in Transplant Diagnostics
Bruce McManus, MD, PhD, St. Paul’s Hospital, Vancouver, BC, Canada

5:35 PM Q&A

5:40 PM The Future of Precision Medicine: Genome Editing Using CRISPR/Cas9 Technology
Christof Fellmann, PhD, University of California, Berkley, CA, USA

5:55 PM Q&A

4:00 PM – 6:00 PM

SYMPOSIUM 23: Taming of the Shrew: Mycobacterium Abscessus in Lung Transplantation
(CORONADO A-C)
(ID, ALL)
CHAIRES: Jens Gottlieb, MD and Me-Linh Luong, MD
SESSION SUMMARY: Mycobacterium abscessus is increasingly isolated pre- and post-lung transplant (LT). It causes a wide spectrum of infection including disseminated post-LT. Pre-LT isolation is a risk for post-LT infection and patient-to-patient transmission may occur. It is resistant to many antibiotics. Prolonged combination therapy is required and side-effects are frequent. Thus, many centers consider M. abscessus a contra-indication to LT. Good outcomes appear linked to aggressive peri-operative management. A 10-minute panel discussion with all speakers will conclude this session.

4:00 PM Epidemiology and Modes of Transmission
Cameron Wolfe, MD, Duke University, Durham, NC, USA

4:15 PM Q&A

4:20 PM Clinical Manifestations, Diagnosis and Antimicrobial Susceptibility
Orla Morrissey, MD, The Alfred Hospital, Melbourne, Australia

4:35 PM Q&A

4:40 PM Management of M. Abscessus in the Lung Transplant Candidate: Preparation for Transplantation
Fernanda Silveira, MD, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

4:55 PM Q&A

5:00 PM Antimicrobial Therapy of M. Abscessus: Current and Novel Agents
Patricia GING, PharmD, Mater Misericordiae University Hospital, Dublin, Ireland

5:15 PM Q&A

5:20 PM DEBATE (PRO): Patients with M. Abscessus Can Be Safely Transplanted
Vincent Valentine, MD, University of Alabama, Birmingham, AL, USA

5:35 PM DEBATE (CON): Patients with M. Abscessus Can Be Safely Transplanted
Paul Corris, MB, FRCP Freeman Hospital, Newcastle upon Tyne, United Kingdom

5:50 PM Panel Discussion
6:15 PM – 7:15 PM
MINI ORAL SESSIONS
MODERATED POSTER SESSION 2
**SESSION SUMMARY:** Neuromuscular disorders result in significant skeletal muscle weakness and increasingly severe cardiomyopathy. The objectives of this session are to identify cardiomyopathy as a common sequela of neuromuscular disorders, review current medical therapies for treating heart failure in this unique population and discuss the use of advanced heart failure therapies such as cardiac transplantation and LVADs for pediatric and adult patients with end-staged neuromuscular cardiomyopathy.

**7:00 AM**  
*Heart Failure in Muscular Dystrophies: No Longer Just a Skeletal Muscle Disorder*  
Daniel J. Garry, MD, PhD, University of Minnesota Medical Center, Minneapolis, MN, USA

**7:10 AM**  
Q&A

**7:15 AM**  
*Heart Failure Medical Treatment for Muscular Dystrophy: When and How to Treat*  
Dennis Duboc, MD, CHU Paris Centre, Hospital Cochin, Paris, France

**7:25 AM**  
Q&A

**7:30 AM**  
*Mechanical Circulatory Support in Muscular Dystrophy Cardiomyopathy*  
Antonio Amodeo, MD, Bambino Gesu Pediatric Hospital, Rome, Italy

**7:40 AM**  
Q&A

**7:45 AM**  
*Cardiac Transplantation in Muscular Dystrophies,*  
Jeffrey Towbin, MD, Le Bonheur Children’s Hospital, Memphis, TN, USA

**7:55 AM**  
Q&A

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**SESSION SUMMARY:** The session will focus on the psychosocial, behavioral challenges as well as communication and developmental issues in pediatric transplant patients. Specific attention will be given to adolescence and models for transition.

**7:00 AM**  
*Neurodevelopmental Outcomes after Pediatric Cardiothoracic Transplant*  
Simon Urschel, MD, University of Alberta, Edmonton, AB, Canada

**7:10 AM**  
Q&A

**7:15 AM**  
*Keep Moving! Physical Exercise and Competitive Sports After Pediatric Transplantation*  
Kari Nytroen, PhD, Oslo University Hospital Rikshospitalet, Oslo, Norway

**7:25 AM**  
Q&A

**7:30 AM**  
*Nobody Understands Me! Communication Strategies to Reach Teenagers and Young Adults*  
Melissa Cousino, PhD, University of Michigan Transplant Center, Ann Arbor, MI, USA

**7:40 AM**  
Q&A

**7:45 AM**  
*Transitioning to Adult Care: Does Anything Work?*  
Jonathan N. Johnson, MD, Mayo Clinic, Rochester, MN, USA

**7:55 AM**  
Q&A

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**SESSION SUMMARY:** Cellular rejection and antibody mediated rejection are well-characterized. These two forms of rejection are most often considered separately, if not mutually exclusive. Increasingly, an overlap in features of these two rejection patterns is being noted (coined “mixed rejection”). Insights into the immune mechanisms of rejection may be gleaned from a better understanding of mixed rejection. A panel discussion with all speakers will conclude this session.

**7:00 AM**  
*T- and B-cell Immunity in Mixed Rejection: Time to Tango*  
Esme Dijke, PhD, University of Alberta, Edmonton, AB, Canada

**7:15 AM**  
*Is the Pathology of Mixed Rejection More Than Just ACR + AMR? See for Yourself*  
Dylan Miller, MD, Intermountain Central Laboratory, Salt Lake City, UT, USA

**7:30 AM**  
*Clinical Insights into the Behavior of Mixed Rejection in Heart Transplantation*  
A. G. Kfoury, MD, FACC, Intermountain Medical Center, Murray, UT, USA

**7:45 AM**  
Panel Discussion
7:00 AM – 8:00 AM

**SUNRISE SYMPOSIUM 10:** Contrasts and Similarities in Children and Adults: IPAH, Portopulmonary Hypertension and Perioperative Management

_(GRAND HALL D)_
_(PH, BSTR, HF, LTX, NHSAH, PEDS, PHARM)_

**CHAIRS:** Jean-Luc Vachiery, MD and Brian Feingold, MD

**SESSION SUMMARY:** This symposium will provide attendees with details on current management of pulmonary arterial hypertension (PAH) in adults and children. Three different clinical scenarios are discussed: idiopathic PAH, portopulmonary PAH, and perioperative PAH care. A panel discussion with all speakers will conclude this session.

7:00 AM  **New Treatment Paradigms in IPAH Management in Children: How Do We Extrapolate Data from Adults?**
Erika Berman Rosenzweig, MD, Columbia University, New York, NY, USA

7:15 AM  **Challenges in Portopulmonary Hypertension: Different in Children?**
Michel De Pauw, MD, Ghent University Hospital, Ghent, Belgium

7:30 AM  **Peri-operative Management of Infants, Children and Adolescents with Pulmonary Vascular Disease: “Trialed as an Adult?”**
Jacqueline R. Szmuszkoicz, MD, Children’s Hospital, Los Angeles, CA, USA

7:45 AM  **Panel Discussion**

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7:00 AM – 8:00 AM

**SUNRISE SYMPOSIUM 11:** There is No Such Thing as Perfect: Selecting Recipients for Lung Transplantation

_(SEAPORT G-H)_
_(LTX, ID, NHSAH, PEDS)_

**CHAIRS:** Rupal Shah, MD and Geert M. Verleden, MD, PhD

**SESSION SUMMARY:** Selection of lung transplant recipients is challenging, often due to limitations of current selection criteria. This sunrise symposium highlights cutting edge research and practical knowledge on physiologic factors, psychological features and non-standard, controversial or rare transplant indications to assist in selecting lung transplant recipients.

7:00 AM  **Identifying the Right Candidate: Body Composition, Physiologic Frailty and Age**
Jonathan P. Singer, MD, MS, UCSF Medical Center, San Francisco, CA, USA

7:17 AM  **Q&A**

7:20 AM  **Psychological and Neurocognitive Frailty: Effect on Transplant Outcomes**
James A. Blumenthal, PhD, Duke University Medical Center, Durham, NC, USA

7:37 AM  **Q&A**

7:40 AM  **“Extended Criteria” Recipients: How Far Should We Go?**
Jens Gottlieb, PhD, Hannover Medical School, Hannover, Germany

7:57 AM  **Q&A**

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8:00 AM – 9:30 AM

**ORAL SESSIONS**

10:00 AM – 11:30 AM

**ORAL SESSIONS**
**SYMPOSIUM 24**: Aiming Off Target: Non-Cardiac Consequences of LVAD Support  
(CHAIRS: Mustafa Toma, MD and Emma Birk, MD, PhD)  
**SESSION SUMMARY**: The relevance of non-cardiac consequences of LVAD support is being increasingly recognized. Many of these “off-target-organ” effects have largely driven the morbidity and mortality of LVAD-supported patients, and these will become more relevant with the rise of the destination therapy population. In this symposium, each speaker will discuss alterations in a different organ system with LVAD support and future directions for research and technologic development to address these alterations.

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>1:30 PM</td>
<td>Continuous-Flow Effects on the Systemic Vasculature and Endothelium</td>
<td>Amrut V. Ambardekar, MD, University of Colorado, Aurora, CO, USA</td>
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<td>1:45 PM</td>
<td>Q&amp;A</td>
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<tr>
<td>1:50 PM</td>
<td>LVAD Effects on Skeletal Musculature and Exercise Capacity</td>
<td>Finn Gustafsson, MD, PhD, Rigshospitalet, Copenhagen, Denmark</td>
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<td>2:05 PM</td>
<td>Q&amp;A</td>
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<td>2:10 PM</td>
<td>Renal Function with LVAD Support</td>
<td>Meredith A. Brisco, MD MSCE, Temple University, Philadelphia, PA, USA</td>
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<td>2:25 PM</td>
<td>Q&amp;A</td>
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<tr>
<td>2:30 PM</td>
<td>Hematologic Perturbations Caused by Mechanical Support</td>
<td>Anna L. Meyer, MD, Leipzig Heart Center, Leipzig, Germany</td>
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<td>2:45 PM</td>
<td>Q&amp;A</td>
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<tr>
<td>2:50 PM</td>
<td>Neuropsychological Function in Long-term LVAD Patients</td>
<td>Ralph Petrucci, MD, Drexel University College of Medicine, Philadelphia, PA, USA</td>
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<td>3:05 PM</td>
<td>Q&amp;A</td>
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<tr>
<td>3:10 PM</td>
<td>Gastrointestinal Physiologic Changes Associated With Continuous-Flow Pumps</td>
<td>Brian Houston, MD, Johns Hopkins Hospital, Baltimore, MD, USA</td>
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<td>Q&amp;A</td>
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**SYMPOSIUM 25**: Dealing With Antibodies Before and After Heart Transplant: Do We Have New Arrows in Our Quiver?  
(CHAIRS: Michael Shullo, PharmD and Luciano Potena, MD, PhD)  
**SESSION SUMMARY**: This session will provide an overview of the current management strategies for sensitized patients pre- and post-transplant by discussing desensitization pharmacotherapy, long-term management and monitoring, key challenges and strategies, immunogenetic and non-HLA considerations, and possible downstream implications on target cells, incorporating the newest research-based evidence supplemented with experience from seasoned multidisciplinary clinicians.

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<th>Time</th>
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<tr>
<td>1:30 PM</td>
<td>Overview of the Management of the Sensitized Heart Transplant Candidate and Recipient</td>
<td>Monica Colvin, MD, University of Michigan, Ann Arbor, MI, USA</td>
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<td>1:45 PM</td>
<td>Q&amp;A</td>
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<tr>
<td>1:50 PM</td>
<td>Strategies for Desensitization of the Heart Transplant Candidate</td>
<td>Laura M. Lourenco, PharmD, University of Chicago Medicine, Chicago, IL, USA</td>
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<td>Q&amp;A</td>
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<tr>
<td>2:10 PM</td>
<td>Downstream Implications of Desensitization</td>
<td>Rajalingam Raja, PhD, UCSF Medical Center, San Francisco, CA, USA</td>
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<td>Q&amp;A</td>
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<tr>
<td>2:30 PM</td>
<td>DEBATE (PRO): No Time to Wait: Proceed to Heart Transplant with Low Level Donor Specific Antibodies</td>
<td>Barbara Pisani, MD, Wake Forest Medical Center, Winston-Salem, NC, USA</td>
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<td>2:45 PM</td>
<td>DEBATE (CON): No Time to Wait: Proceed to Heart Transplant with Low Level Donor Specific Antibodies</td>
<td>Lee R. Goldberg, MD, MPH, University of Pennsylvania, Philadelphia, PA, USA</td>
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<td>3:00 PM</td>
<td>DEBATE (PRO): Asymptomatic Donor Specific Antibodies After Transplant: Everyone Should Be Treated</td>
<td>Sharon Chih, MD, University of Ottawa Heart Institute, Ottawa, ON, Canada</td>
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<tr>
<td>3:15 PM</td>
<td>DEBATE (CON): Asymptomatic Donor Specific Antibodies After Transplant: Everyone Should Be Treated</td>
<td>Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, VA, USA</td>
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**SYMPOSIUM 26**: Making Every Heart Count  
(CHAIRS: Kiran K. Khush, MD and Jason W. Smith, MD)  
**SESSION SUMMARY**: This symposium focuses on donor heart utilization, from use of expanded criteria donors to improved stewardship of donor hearts, reducing waste of potentially usable hearts and breaking open the doors of DCD heart procurement.

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<tr>
<td>1:30 PM</td>
<td>Is The Expanded Criteria Donor the New Standard Criteria Donor?</td>
<td>Andre R. Simon, MD, PhD, Harefield Hospital, London, United Kingdom</td>
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<td>Q&amp;A</td>
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<td>1:50 PM</td>
<td>Can We Revive the DCD Heart?</td>
<td>Stephen Large, FRCS, Papworth Hospital, Cambridge, United Kingdom</td>
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<tr>
<td>2:10 PM</td>
<td>Resource Stewardship in Donor Selection</td>
<td>Michael Pham, MD, California Pacific Medical Center, San Francisco, CA, USA</td>
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<td>Q&amp;A</td>
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<td>2:30 PM</td>
<td>The Public Health Service (PHS) Increased Risk Donor: What Is the Real Risk of Infection?</td>
<td>Michael Ison, MD, Northwestern University, Chicago, IL, USA</td>
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<td>2:50 PM</td>
<td>Evaluation of the Heart at Time of Donor Procurement</td>
<td>William E. Stansfield, MD, Toronto General Hospital, Toronto, ON, Canada</td>
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<td>3:05 PM</td>
<td>Q&amp;A</td>
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<tr>
<td>3:10 PM</td>
<td>Getting The Heart Home – How to Procure the Donor Heart</td>
<td>Hannah Copeland, MD, VA McGuire Medical Center/Virginia Commonwealth University, Richmond, VA, USA</td>
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<td>3:25 PM</td>
<td>Q&amp;A</td>
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### SYMPOSIUM 27: Bench to Bedside: How Advances in Immunology Shape the Care of Today’s Lung Transplant Recipients

**(GRAND HALL C)**

**CHAIRS:** Ciara M. Shaver, MD and Andrew J. Fisher, FRCP, PhD

**SESSION SUMMARY:** Recent advances in immunology have important implications for modern day clinical care. This session will highlight some important scientific advances in genomics and immunology with direct applicability to clinical issues including immunosuppression, graft surveillance, drug dosing, and antibody mediated rejection. This session will help to bridge the gap between translational immunology research and current clinical practice.

#### 1:30 PM The Immunobiology of Lung Transplantation: From Bench to Bedside
Rebecca A. Shilling, MD, University of Chicago, Chicago, IL, USA

#### 1:50 PM Q&A

#### 1:54 PM The Quest for Biomarkers for Acute and Chronic Lung Rejection: Where Are We Now?
John R. Greenland, MD, PhD, UCSF Medical Center, San Francisco, CA, USA

#### 2:14 PM Q&A

#### 2:18 PM Tackling the Immune System: Novel Biologicals and Immunomodulators in Lung Transplant Recipients
Stephen Juvet, MD, PhD, Toronto General Research Institute, Toronto, ON, Canada

#### 2:38 PM Q&A

#### 2:42 PM Antibody-Targeted Therapies in Lung Transplantation: When and How to Use?
Ramsey R. Hachem, MD, Washington University School of Medicine, St. Louis, MO, USA

#### 3:02 PM Q&A

#### 3:06 PM Targeting Non-Immune Cells: Novel Treatment Options in Lung Transplantation
Daniel Chambers, MBBS, MRCPath, FRACP, MD, The Prince Charles Hospital, Brisbane, Australia

#### 3:26 PM Q&A

### SYMPOSIUM 28: Great Debates in Pulmonary Hypertension

**(GRAND HALL D)**

**PH, ALL**

**CHAIRS:** Teresa De Marco, MD, FACC and Paul A. Corris, MB FRCP

**SESSION SUMMARY:** The diagnosis and management of pulmonary hypertension is steadily being refined by ongoing investigations in the field. However, knowledge gaps and challenges still remain. This session will explore in case and debate format controversial diagnostic and management dilemmas beyond accepted practice. Topics include adding additional Pulmonary Arterial Hypertension (PAH) specific therapy in a stable patient, treatment of borderline pulmonary hypertension, and managing pulmonary hypertension complicated by Interstitial Lung Disease (ILD).

#### 1:30 PM Case Presentation: “I’m Doing Fine Doc, Do I Really Need Another Pill?”
Roberto Badagliacca, MD, University of Rome Sapienza, Rome, Italy

#### 1:35 PM DEBATE (PRO): My Patient with PAH is Clinically Stable on Monotherapy: I Should Escalate to Dual or Triple Therapy
Rogerio Souza, MD, University of Sao Paulo, Sao Paulo, Brazil

#### 1:50 PM DEBATE (CON): My Patient with PAH is Clinically Stable on Monotherapy: I Should Escalate to Dual or Triple Therapy
Veronica Franco, MD, Ohio State University, Columbus, OH, USA

#### 2:05 PM CASE PRESENTATION: To Treat or Not To Treat...Borderline PAH
Richa Agarwal, MD, Allegheny General Hospital, Pittsburgh, PA, USA

#### 2:10 PM DEBATE (PRO): “Borderline” PAH Should Be Treated with PAH Specific Therapy
Bradley Maron, MD, Brigham and Women’s Hospital, Boston, MA, USA

#### 2:25 PM DEBATE (CON): “Borderline” PAH Should Be Treated with PAH Specific Therapy
Jean-Luc Vachiery, MD, Erasme University Hospital – ULB, Brussels, Belgium

#### 2:40 PM CASE PRESENTATION: To Treat or Not To Treat...Interstitial Lung Disease (IDL)-PH
Christopher King, MD, FACP FCCP, Inova Fairfax Hospital, Falls Church, VA, USA

#### 2:45 PM DEBATE (PRO): Pulmonary Hypertension Due to Lung Disease Should Be Treated with PAH Specific Therapies
Steven D. Nathan, MD, Inova Fairfax Hospital, Falls Church, VA, USA

#### 3:00 PM DEBATE (CON): Pulmonary Hypertension Due to Lung Disease Should Be Treated with PAH Specific Therapies
Marius Hoeper, MD, Hannover Medical School, Hannover, Germany

#### 3:15 PM Panel Discussion
SYMPOSIUM 29: How to Mend a Broken Heart: Approaches for Cardiac Regeneration
(SEAPORT G-H)
(BSTR, HF, HTX, PATH, PHARM)
CHAIRS: Esme Dijke, PhD and Daniel TS Reichart, MD

SESSION SUMMARY: This session provides an overview of mechanisms of heart failure and different experimental approaches for cardiac regeneration. Implications for multipotent stem cell therapies are presented, followed by cell independent strategies to cardiac regeneration. Furthermore, the potential of pluripotent stem cells and stem cell-derived cardiomyocytes, as well as myocardial tissue engineering approaches, will be discussed.

1:30 PM Mechanisms of Heart Failure and Experimental Therapeutic Options
Claudius Mahr, DO, University of Washington, Seattle, WA, USA

1:45 PM Q&A

1:50 PM Multipotent Stem Cells and Cardiac Progenitors in Clinical Trials
Joshua Hare, MD, Miller School of Medicine, Miami, FL, USA

2:05 PM Q&A

2:10 PM MicroRNAs and Cell Independent Strategies for Cardiac Regeneration
Pradeep Mammen, MD, UT Southwestern Medical Center, Dallas, TX, USA

2:25 PM Q&A

2:30 PM Cardiac Cell Injection for Heart Failure: Pluripotent Stem Cells (PSC) and Stem Cell-Derived Cardiomyocytes
Tobias Deuse, MD, PhD, UCSF Medical Center, San Francisco, CA, USA

2:45 PM Q&A

2:50 PM Myocardial Tissue Engineering: Where Are We Now and Where Are We Heading?
Simon Pecha, MD, University Heart Centre Hamburg, Hamburg, Germany

3:05 PM Q&A

3:10 PM Pluripotent Stem Cells: Hurdles and Perspectives on the Way to Clinical Application
Doris Taylor, MD, Texas Heart Institute, Houston, TX, USA

3:25 PM Q&A
**SYMPOSIUM 30: E-Health, Wearables, Social Media and Big Data in Transplantation: Fancy Toys or True Care Innovations?**

**CHAIRS: Deborah Page, NP and Steve Ivulich, PharmD**

**SESSION SUMMARY:** The purpose of this symposium is to discuss the state-of-the-art of e-health technology (telemedicine, telehealth and interactive health technology applications) in delivering care (e.g. long-distance care, self-management support) in end-stage organ disease, LVAD and transplantation. In addition, interactive communication options via social media for public involvement as well as research dissemination will be reviewed. Moreover the value of the big data for transplantation will be explored.

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<th>Time</th>
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<tbody>
<tr>
<td>1:30 PM</td>
<td>The Many Faces of E-health: An Overview</td>
<td>Fabienne Dobbels, MSc, PhD, University of Leuven, Leuven, Belgium</td>
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<td>1:45 PM</td>
<td>Q&amp;A</td>
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<tr>
<td>1:50 PM</td>
<td>The Importance of Involving End-Users When Designing Interactive Health Technology Applications for Self-Management Support</td>
<td>Annette DeVito-Dabbs, PhD, RN, ACNS-BC, FAAN, University of Pittsburgh School of Nursing, Pittsburgh, PA, USA</td>
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<td>Q&amp;A</td>
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<td>2:10 PM</td>
<td>The ABCs of Social Media</td>
<td>Mary N. Walsh, MD, St. Vincent Hospital, Indianapolis, IN, USA</td>
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<td>2:25 PM</td>
<td>Q&amp;A</td>
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<td>2:30 PM</td>
<td>Closer to the Heart: The Impact of Distance to Care and Remote Care</td>
<td>Tam Khuu, PharmD, UCLA Medical Center, Los Angeles, CA, USA</td>
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<td>2:45 PM</td>
<td>Q&amp;A</td>
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<td>2:50 PM</td>
<td>Big Data: Big Impact</td>
<td>Josef Stehlik, MD, MPH, University of Utah School of Medicine, Salt Lake City, UT, USA</td>
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<td>3:05 PM</td>
<td>Q&amp;A</td>
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<td>3:10 PM</td>
<td>New Ethical and Legal Challenges Surrounding E-health in Transplantation</td>
<td>JiYeon Choi, PhD, RN, University of Pittsburgh School of Nursing, Pittsburgh, PA, USA</td>
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<td>Q&amp;A</td>
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**SUNRISE SYMPOSIUM 13: Mechanical Circulatory Support – The Interface of Design and Outcome**

*GRAND HALL A*

(MCS, BSTR, EEP, HF, HTX)

**CHAIRS:** Ulrich Steinseifer, PhD and Robert L. Kormos, MD

**SESSION SUMMARY:** Despite the advance of mechanical circulatory support systems over the past decade they remain limited by the significant incidence of adverse events (AE). In this session approaches to understand and limit AE such as thrombosis, bleeding and infection will be addressed. Particularly, the role of system component interfaces, smart monitoring and alarms using pressure sensors and data mining techniques, and the “design thinking” paradigm for devices that embody multi-factorial challenges.

7:00 AM  Interfaces and Mechanical Circulatory Support: Challenges and Opportunities for System and Outcome Improvement

Marvin J. Slepian, MD, University of Arizona, Tucson, AZ, USA

7:10 AM  Q&A

7:15 AM  Will Pressure Sensors Help in Making Smarter Pumps?

Mark Slaughter, MD, University of Louisville, Louisville, KY, USA

7:25 AM  Q&A

7:30 AM  Anticipation of Adverse Events: Do the Data Speak For Themselves?

Francesco Moscato, PhD, Medical University of Vienna, Vienna, Austria

7:40 AM  Q&A

7:45 AM  Design/Interconnected Thinking for Better Biomedical Devices

J. Yasha Kresh, PhD, Drexel University College of Medicine, Philadelphia, PA, USA

7:55 AM  Q&A

**SUNRISE SYMPOSIUM 14: The Tsunami of Adult Congenital Heart Disease (ACHD) Patients Who Need Advanced Therapies: Are We Prepared?**

*GRAND HALL B*

(HTX, HF, HTX, MCS, PEDS, PH)

**CHAIRS:** Heather J. Ross, MD, MHSc, FRCPC and Sanem Nalbantgil, MD

**SESSION SUMMARY:** A need exists for advanced therapies for Adult Congenital Heart Disease (ACHD) patients. The session will begin with the challenges of bringing ACHD patients to transplant. The session will also include talks on surgical planning and mechanical support options for these patients, accurate imaging evaluation, and treatment of pulmonary hypertension. We will discuss a team based approach to successful outcomes as well as dual organ transplantation and will end with a discussion of allocation in ACHD patients worldwide.

7:00 AM  How to Know When an Adult with Complex Congenital Heart Disease Needs Heart Transplantation

Alexander R. Opotowsky, MD, The Children’s Hospital, Philadelphia, PA, USA

7:15 AM  Q&A

7:20 AM  Surgical Considerations for MCS and Heart Transplant ACHD

Martin Schweiger, MD, Children’s Hospital, Zurich, Switzerland

7:35 AM  Q&A

7:40 AM  Care of the ACHD Patient After MCS or Heart Transplant: The Challenge is Just Beginning

Jonathan Menachem, MD, Hospital of the University of Pennsylvania, Philadelphia, PA, USA

7:55 AM  Q&A

**SUNRISE SYMPOSIUM 15: Extracorporeal Photopheresis: Shedding Light on Rejection?**

*GRAND HALL C*

(LTX, BSTR, HTX, ID, NMSAH, PATH, PEBS, PHARM)

**CHAIRS:** Matthew R. Morrell, MD and Christian Benden, MD, FCCP

**SESSION SUMMARY:** This session will explore mechanisms and clinical indications of extracorporeal photopheresis (ECP) with a goal to increase understanding of the possible benefits of ECP and adoption of this therapy in lung and heart transplant recipients.

7:00 AM  ECP: Everything Under the Sun

Jill Adamski, MD, PhD, Mayo Clinic, Phoenix, AZ, USA

7:17 AM  Q&A

7:20 AM  ECP in Heart Transplantation: Have the Lights Gone Out?

Andreas Zuckermann, MD, Medical University of Vienna, Vienna, Austria

7:37 AM  Q&A

7:40 AM  ECP in Lung Transplantation: Light at the End of the Tunnel?

Mark Greer, MB Bch, Hannover Medical School, Hannover, Germany

7:57 AM  Q&A
### SUNRISE SYMPOSIUM 16: Pregnant – Scared? So Are We…Management of Pregnancy in Our Complex Patients

**SESSION SUMMARY:** Women of reproductive age account for over 1/3 of all SOT recipients. Most are advised to avoid pregnancy for several years post-transplant, if not altogether. However, as outcomes post-transplant continue to improve, more women are able to consider pregnancy. There are numerous risks to the transplant recipient, organ and fetus. Hence, there is a great need for expertise in addressing family planning, fertility, contraception, and care during and after pregnancy.

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<th>Time</th>
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<tr>
<td>7:00 AM</td>
<td>The Facts of Life: Pregnancy After Thoracic Organ Transplant</td>
<td>Robin Vos, MD, PhD, KU Leuven, Belgium</td>
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<td>7:10 AM</td>
<td>Q&amp;A</td>
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<tr>
<td>7:15 AM</td>
<td>Labor of Love: Pregnancy in the Heart Failure/Congenital Population</td>
<td>Leigh C. Reardon, MD, UCLA Medical Center, Los Angeles, CA, USA</td>
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<td>Q&amp;A</td>
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<tr>
<td>7:30 AM</td>
<td>In the Mix: Orchestrating the Multidisciplinary Care of the Post-Transplant/MCS/Complex Congenital Pregnant Patient</td>
<td>Mary Canobbio, RN, FAAN, UCLA Medical Center, Los Angeles, CA, USA</td>
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<td>Q&amp;A</td>
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<tr>
<td>7:45 AM</td>
<td>Treating the Mother, Protecting the Baby: Drug Therapy During and After Pregnancy</td>
<td>Jennifer Eshelman, PharmD, Children’s Hospital Colorado, Aurora, CO, USA</td>
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### SUNRISE SYMPOSIUM 17: Living in a ‘Bacterial’ World: Microbiome in Thoracic Transplantation

**SESSION SUMMARY:** The goal of this session is to explore the role of the microbiome in affecting post-transplant outcomes or in reflecting the extent of immunosuppression. Discussion will include an overview of the effect of the microbiome on health and disease followed by transplant specific considerations. Included in this is the question of whether changes in the bacterial or viral micro biome can be used to reflect the extent of immunosuppression, thus facilitating modulation of immunosuppression to improve outcomes.

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<tr>
<td>7:00 AM</td>
<td>The Microbiome in Health and Disease</td>
<td>W. H. Wilson Tang, MD, Cleveland Clinic Foundation, Cleveland, OH, USA</td>
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<td>7:10 AM</td>
<td>Q&amp;A</td>
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<td>7:15 AM</td>
<td>Microbiome in Transplantization</td>
<td>Maria-Luisa Alegre, MD PhD, University of Chicago, Chicago, IL, USA</td>
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<td>7:25 AM</td>
<td>Q&amp;A</td>
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<td>7:30 AM</td>
<td>The Microbiome and Immunosuppression in Heart Transplant</td>
<td>Kiran Khush, MD, MAS, Stanford University, Stanford, CA, USA</td>
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<td>7:40 AM</td>
<td>Q&amp;A</td>
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<td>7:45 AM</td>
<td>Microbiome in Lung Transplantization and Gut-Lung Axis</td>
<td>Sangeeta M. Bhorade, MD, Northwestern Memorial Hospital, Chicago, IL, USA</td>
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<td>7:55 AM</td>
<td>Q&amp;A</td>
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The ishlt academy draws on the wealth of experience and expertise within the Society to deliver high quality educational experiences with the goal of enabling our members to improve and maintain the highest possible standards in the care of patients with advanced heart and lung disease. The ishlt academy represents the ‘brand name’ that is associated with the educational opportunities offered by the ISHLT to its members and interested non-members. The purpose of the ishlt academy is to develop an enduring resource of education in core and masters level competencies in the fields of cardiopulmonary transplantation, mechanical and biological support of the failing heart, advanced lung disease (including pulmonary vascular disease), infectious diseases and other related disciplines.
You may register for these courses via the Annual Meeting Registration Form. Attendance at the Annual Meeting is not required in order to register for an ISHLT Academy course. Attendance at all ISHLT Academy courses is limited. Please register early.
The MCS Master Class presents a unique international educational opportunity for specialists and developing experts in the field of Mechanical Circulatory Support. A concerted effort brings together faculty and experts to provide an interactive environment well beyond core competency training. The MCS Master Class is arranged in advanced breakout sessions for every participant to take full advantage of an integrated curriculum and the exceptional networking opportunity. The specific topics are devised according to defined clinical practice gaps in this fast developing specialty.
PRACTICE GAPS

1. The outcomes of cardiogenic shock have remained poor, large randomized trials are scarce and the management of these patients remains challenging. Comprehensive clinical expertise of advanced usage of evolving MCS options including patient and device selection and transition to next step therapies constitute currently major limitations in the care of these critically ill patients.

2. Specific approaches to optimize the exercise capacity of MCS patients is an unmet clinical need.

3. The disparities in the cardiac recovery outcomes observed between various centers indicate that implementing targeted patient selection and subsequently effective diagnostic and therapeutic protocols to facilitate cardiac recovery is challenging for the majority of practitioners.

4. The diagnosis and management of complex and combined adverse events such as cerebrovascular hemorrhagic accidents, device thrombosis and gastrointestinal bleeding is challenging and practitioners often face difficulties in developing effective strategies to appropriately identify and treat these adverse events.

5. The diagnostic and therapeutic approaches for early and late right ventricular failure in MCS patients has been evolving with the introduction of new diagnostic criteria and new technologies/therapeutic options. Such practice gaps in specialist knowledge and clinical skills constitute major limitations in the care of MCS patients.

6. With the rapid evolution of minimally invasive surgical approaches the individual practitioners may lack the extensive expertise required to appropriately select patients and surgical approaches to achieve the best possible outcome.

EDUCATIONAL GOALS
The overarching goal is to provide an advanced learning opportunity for specialists and developing experts in the field of MCS and devices for treatment of heart failure patients.

TARGET AUDIENCE
Cardiothoracic Surgeons and Cardiologists with MCS experience, Specialists in Heart Failure Care, allied health professionals with involvement in MCS patients, VAD and Transplant Coordinators and critical care specialists, heart transplant professionals.
LEARNING OBJECTIVES

1. Identify the challenges during the diagnosis and management of complex cardiogenic shock patients and the potential benefits of a multidisciplinary team approach.

2. List effective strategies to optimize exercise capacity and facilitate myocardial recovery in MCS patients.

3. Explain how to appropriately select patients for long-term MCS options with particular consideration in anticipated surgical management aspects.

4. Describe how to develop a systematic approach to diagnosis and therapy of complex and combined adverse events such as device thrombosis, recurrent gastrointestinal bleeding and stroke.

5. Name the diagnostic and therapeutic challenges of early and late RV failure.

ACCREDITATION STATEMENT

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CREDIT DESIGNATION STATEMENT

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ACPE CREDIT

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DISCLOSURE

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7:00 AM – 7:45 AM
REGISTRATION AND MORNING COFFEE

7:45 AM – 8:00 AM
WELCOME AND INTRODUCTIONS
Stavros Drakos, MD, PhD, University of Utah School of Medicine, Salt Lake City, UT, USA

8:00 AM – 9:00 AM
SMALL GROUP INTERACTIVE DISCUSSION A: Acute MCS for Profound Cardiogenic Shock/Intermacs 0-1 Profiles
Moderator: Stavros Drakos, MD, PhD

8:00 AM Case Scenario: Management Challenges for ‘Crash and Burn’ Patients: ‘Shock Team’ Approach to MCS
Hiroo Takayama, MD, Columbia University, NY, USA

8:30 AM Case Scenario: Transition from Short to Long-term Support
Keith Aaronson, MD, University of Michigan, Ann Arbor, MI, USA

9:05 AM – 10:05 AM
SMALL GROUP INTERACTIVE DISCUSSION B: Complex Coagulation Issues in MCS Patients
Moderator: Ivan Netuka, MD, PhD

9:05 AM Case Scenario: Recurrent GI Bleeding and Pump Thrombosis
Simon Maltais, MD, PhD, Mayo Clinic, Rochester, MN, USA

9:35 AM Case Scenario: Management of Cerebrovascular Hemorrhagic Accidents
Chris Hayward, MD, St. Vincent’s Hospital, Sydney, Australia

10:05 AM – 10:30 AM
COFFEE BREAK

10:30 AM – 11:30 AM
SMALL GROUP INTERACTIVE DISCUSSION C: Patient Selection and Management (I)
Moderator: Stavros Drakos, MD, PhD

10:30 AM Case Scenario: Bridge to Recovery: From Prediction to Implementation
Snehal Patel, MD, Einstein/Montefiore, Bronx, NY, USA

11:00 AM Case Scenario: Optimizing The Exercise Capacity of Chronic MCS Pts: Implications for Heart Recovery Assessment
Bart Meyns, MD, University Hospitals Leuven, Leuven, Belgium

11:35 AM – 12:35 PM
SMALL GROUP INTERACTIVE DISCUSSION D: Patient Selection and Management (II)
Moderator: Ivan Netuka, MD, PhD

11:35 AM Case Scenario: Early and Late RV Failure: From Prediction to Management
Lars Lund, MD, PhD, Karolinska Institute, Stockholm, Sweden

12:05 PM Case Scenario: Minimally Invasive Surgical Approaches from Implant to Explant
Anson Cheung, MD, University of British Columbia, Vancouver, Canada

12:35 PM – 12:50 PM
CLOSING REMARKS
Stavros Drakos, MD, PhD, University of Utah School of Medicine, Salt Lake City, UT, USA
Ivan Netuka, MD, PhD, Institute for Clinical and Experimental Medicine, Prague, Czech Republic
ISHLT ACADEMY
CORE COMPETENCY COURSE IN MECHANICAL CIRCULATORY SUPPORT

TUESDAY, APRIL 4, 2017 8AM–5:30PM
GRAND HALL B

SCIENTIFIC PROGRAM COMMITTEE
Chair: Jennifer Cowger, MD, MS
St. Vincent Heart Center of Indiana, Indianapolis, Indiana, USA
Co-Chair: Palak Shah, MD, MS
Inova Heart and Vascular Institute, Falls Church, Virginia, USA
Co-Chair: Diyar Saeed, MD
Heinrich-Heine University, Dusseldorf, Germany

EDUCATIONAL GOALS
The educational goals of this activity are to provide a concise review of clinical knowledge and essential professional skills to facilitate best practice of surgical and medical aspects involved in the care of patients during assessment as candidates and as recipients of mechanical circulatory support.

TARGET AUDIENCE
While all members are invited to enroll, this course is primarily designed to be of benefit for clinicians and allied professionals who are in the early stages of their careers or who are in training and/or are part of a new program or desire an update on the current state of the field. The information presented covers core competencies and is intended to provide a strong foundation of the overarching principles of mechanical support, rather than as a detailed update for those who are already proficient experts in the field.

LEARNING OBJECTIVES
At the conclusion of this meeting, participants will have improved competence and professional performance in their ability to:

1. Explain how to risk stratify patient with advanced heart failure in order to assess MCS surgical risk and optimally time mechanical circulatory support (MCS) implantation.
2. Discuss the medical and social factors which impact patient outcomes during short- and long-term MCS.
3. Recognize the various types of MCS support available for patients with advanced single or biventricular heart failure and the technological differences that may impact pump selection and patient/device management.
4. Identify MCS implantation techniques and patient/pump management during the index admission intensive care unit and inpatient general care periods.
5. Describe how to manage patients and the MCS during outpatient long-term support with an understanding of interventions that can reduce patient- and device-related adverse events during MCS.
6. Diagnose and manage common clinical dilemmas and adverse encountered after MCS.
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SCIENTIFIC PROGRAM SCHEDULE

7:00 AM – 8:00 AM
MORNING COFFEE AND REGISTRATION

8:00 AM – 9:15 AM
SESSION 1: Review of The Current State of MCS
Chair: Diyar Saeed, MD

8:00 AM Welcome and Overview
Jennifer Cowger, MD, MS, St. Vincent Heart Center of Indiana, Indianapolis, IN, USA

8:05 AM MCS Technology 101
Scott Silvestry, MD, Florida Transplant Institute, Orlando, FL, USA
Review of current technologies available, pump behaviors with different loading conditions, and the TAH.

8:25 AM BTT and DT Outcome
Lynne Warner Stevenson, MD, Brigham & Women’s Hospital, Boston, MA, USA
Review state of outcomes and adverse events with current technologies

8:40 AM Short-term Support and Shock
Jonathan Haft, MD, University of Michigan, Ann Arbor, MI, USA
Overview of percutaneous technologies, biventricular support considerations, and ECMO.

9:00 AM Q&A with Panel
9:15 AM – 10:30 AM
SESSION 2: Patient Selection
Chair: Scott Silvestry, MD

9:15 AM When Should Patients be Referred: Warning Signs
Douglas Horstmannhoff, MD, PhD, Integrus Baptist Medical Center, Oklahoma City, OK, USA
Risk factors which presage patient decline (renal function, intolerance of medications, hospitalizations, etc, helping to risk stratify patients based on HF severity and MCS operative risk.

9:35 AM Assessing and Optimizing RV Function Preoperatively
Thomas Krabatsch, MD, PhD, Deutsches Herzzentrum, Berlin, Germany
Impact of RV failure, pre-operative assessment and management of the RV including imaging and risk prediction. Cases included.

9:55 AM Quality of Life After VAD and the Impact of Frailty and Social Behaviors on VAD Success
Kathleen Grady, PhD, APN, FAAN, Northwestern University, Chicago, IL, USA
Other factors that can have a significant impact on success after VAD and some screening tools available for risk assessment.

10:15 AM Q&A with Panel

10:30 AM – 11:00 AM
COFFEE BREAK

10:45 AM – 12:00 PM
SESSION 3: Surgical Considerations
Chair: Vivek Rao, MD, PhD

10:45 AM Key Surgical Aspects of Implantation
Nader Moazami, MD, Cleveland Clinic, Cleveland, OH, USA
Overview of the most crucial surgical considerations: inflow cannula/pump placement, driveline, etc.

11:05 AM How Much Else is Too Much?
Daniel Zimpfer, MD, Medical University of Vienna, Vienna, Austria
Concomitant operative procedures: TV, Aortic valve, prior Dor, congenitals

11:25 AM Tailoring Pumps to Patients
Diyar Saeed, MD, Heinrich-Heine University, Dusseldorf, Germany
Case based discussion of considerations for pump-patient matching * will add in TAH discuss

11:45 AM Q&A with Panel

12:00 PM – 1:00 PM
LUNCH BREAK (a box lunch is included in the registration fee)

1:00 PM – 2:15 PM
SESSION 4: Postoperative Care
Chair: Andreas Zuckerman, MD, PhD

1:00 PM Managing the RV Postop
Christopher Salerno, MD, St. Vincent Heart Center of Indiana, Indianapolis, Indiana, USA
Considerations for impact of LVAD pump speed on RV function and use of inotropes, pulmonary vasodilators, and temporary RV support postoperatively

1:20 PM Anticoagulation and Antiplatelet Therapy
Vivek Rao, MD, PhD, Toronto General Hospital, Toronto, Canada
Current MCS recommendation on when to start anticoagulation, antiplatelet therapy regimens, as well as data on platelet function testing and heparin level monitoring.

1:40 PM Pump Speed Optimization: The Role of Imaging and Hemodynamics
Jerry Estep, MD, Houston Methodist DeBakey Heart & Vascular Center, Houston, TX, USA
Overview of how to meld imaging and hemodynamics to optimize pump settings

2:00 PM Q&A with Panel

2:15 PM – 3:15 PM
SESSION 5: Transition to Home
Chair: Nir Uriel, MD

2:15 PM VAD Education: Patient/Caregiver Assessments and Strategies for Successful VAD Self-Care
Thomas Schlöglhofer, BSc, Medical University of Vienna, Vienna, Austria
Approaches to education of the patient and caregiver prior to discharge, and strategies for educating the local medical community

2:30 PM Starting New: How to Start and Succeed in MCS
Michael Dickinson, MD, Spectrum Health, Grand Rapids, MI
Challenges to starting a VAD program and key elements of success.

2:45 PM Optimal Outpatient Management of VAD Recipients
Jennifer Cowger, MD, MS, St. Vincent Heart Center of Indiana, Indianapolis, IN, USA
Lab, blood pressure and echo monitoring of VAD patients in the outpatient setting.

3:00 PM Q&A with Panel

3:15 PM – 3:30 PM
COFFEE BREAK

3:30 PM – 5:20 PM
SESSION 6: Long Term Management of Patients and Complications
Chair: Nader Moazami, MD
This session will have a case built in to the discussion. Audience participation is encouraged through audience response system (ARS) when prompted.

3:30 PM LVAD Infections: Prevention, Diagnosis and Management
Paolo A Grossi, MD, PhD, University of Insubria, Varese, Italy
VAD infections, radiology studies important for diagnosis, and therapeutic recommendations

3:50 PM Stroke: Risk factors for Hemorrhagic and Embolic CNS Complications and Management Strategies
Samer Najjar MD, Medstar Washington Hospital Center, Washington, DC, USA
Discuss diagnosis, risk factors, and management strategies for CNS events in MCS patients.

4:10 PM Pump Thrombosis: Diagnostic Strategies and Management Algorithms
Palak Shah, MD, MS, Inova Heart and Vascular Institute, Falls Church, VA, USA
Frequency, diagnosis, and management strategies for suspected pump thrombosis.

4:30 PM Aortic Insufficiency in LVAD Recipients: Incidence, Screening and Management
Jennifer Cowger, MD, MS, St. Vincent Heart Center of Indiana, Indianapolis, IN, USA
Cumulative incidence, clinical consequences and management of AI after LVAD.

4:50 PM GI Bleeding
Anna Meyer, MD, Heart Center Leipzig University, Leipzig, Germany
Frequency, diagnosis and management of GI bleeding after LVAD therapy, including new data on octreotide

5:10 PM Q&A with Panel

5:20 PM Summary
Palak Shah, MD, MS, Inova Heart and Vascular Institute, Falls Church, VA, USA

5:30 PM Adjourn
TARGET AUDIENCE
While all members are invited to enroll, this course is primarily designed to be of benefit for clinicians and allied professionals who are in the early stages of their careers or who are in training and/or are part of a new program or desire an update on the current state of the field. The information presented covers core competencies and is intended to provide a strong foundation of the overarching principles of infectious disease concerns in cardiothoracic transplantation and mechanical circulatory support, rather than as a detailed update for those who are already proficient experts in the field.

LEARNING OBJECTIVES
At the conclusion of this meeting, participants will have improved competence and professional performance in their ability to:

1. Explain how to utilize pretransplant evaluation and screening of the cardiothoracic transplant recipient and donor to minimize the risk of infections in cardiothoracic transplant and MCS recipients.

2. Describe how to control and prevent infection in cardiothoracic transplantation and MCS recipients.

3. Identify clinical infections and how to use diagnostic methodology for the detection of bacterial, fungal, viral, and parasitic infectious diseases

4. Discuss the pharmacology of anti-infective agents in cardiothoracic transplant and MCS recipients.
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SCIENTIFIC PROGRAM SCHEDULE

7:00 AM – 7:45 AM
MORNING COFFEE AND REGISTRATION

7:45 AM Welcome and Overview
Martha Mooney, MD, FACP, Sentara Norfolk Transplant Center/EVMS, Norfolk, VA, USA
Shahid Husain, MD, MS, University Health Network, Toronto, ON, Canada

8:00 AM – 9:20 AM
SESSION 1: Impact of Surgery and Immunosuppression on Infection in CT TX Recipient and Donor Selection Considerations

8:00 AM Impact of the Surgical Transplant Procedure on Infection Risk in CT TX
Andreas Zuckermann, MD, Medical University of Vienna, Vienna, Austria

8:15 AM The Devil Made Me Do It: Impact of Immunosuppression on Infection Risk in CT TX
Shahid Husain, MD, MS, University Health Network, Toronto, Canada

8:30 AM Not All Transplant Recipients are Created Equal! Pre-transplant Screening of Recipients
Michele Estabrook, MD, St. Louis Children’s Hospital, St. Louis, MO, USA

8:50 AM Beware the Trojan Horse: Pre-transplant Screening of Donors and Donor Derived Infections
Valentina Stosor, MD, Northwestern University Feinberg School of Medicine, Chicago, IL, USA

9:10 AM Q&A
9:20 AM – 10:20 AM
SESSION 2: Diagnosing Infection in CT TX and Treatment Considerations

9:20 AM Diagnostic Microbiology and Pathology for Infections in CT TX
Kate Gould, FRCPath, NUTH NHS Foundation Trust, Newcastle Upon Tyne, United Kingdom

9:40 AM Diagnostic Radiology for Infections in CT TX
Allan Glanville, MBBS, MD, FRACP, St. Vincent’s Hospital, Sydney, Australia

9:55 AM This Could Happen to You… Drug Interactions and Toxicity Errors to Avoid with Anti-infectives and Immunosuppression and Cracking the Therapeutic Drug Monitoring Code
Christopher Ensor, PharmD, BCPS-CV, University of Pittsburgh, Pittsburgh, PA, USA

10:15 AM Q&A

10:20 AM – 10:35 AM
COFFEE BREAK

10:35 AM – 11:35 AM
SESSION 3: Bacterial and Parasitic Pathogens

10:35 AM Nosocomial Threats and Tackling Multidrug Resistant Bacteria: If We Persist, We Will Wear Down the Resistance!
Kate Gould, FRCPath, NUTH NHS Foundation Trust, Newcastle Upon Tyne, United Kingdom

10:55 AM Bugs that Upset Us and Send Us into Orbit: Mycobacteria and Nocardia
Orla Morrissey, MD, The Alfred Hospital, Melbourne, Australia

11:10 AM Unwelcome Visitors: Parasitic Infections in CT TX: Toxoplasmosis, Strongyloidiasis, Chagas
Fernando Bacal, MD, University of Sao Paulo, Sao Paulo, Brazil

11:25 AM Q&A

11:35 AM – 12:45 PM
SESSION 4: Viral Infections in CT TX

11:35 AM CMV: A Perennial Problem
Robin Avery, MD, Johns Hopkins University, Baltimore, MD, USA

11:50 AM EBV/PTLD: A Continual Conundrum
Erik Verschuuren, MD, PhD, University Medical Centre Groningen, Groningen, The Netherlands

12:05 PM Challenges from the Community: Respiratory Viruses, Parvovirus, Norovirus and Others
Joanna Schaeneman, MD, PhD, David Geffen School of Medicine, Los Angeles, CA, USA

12:20 PM HIV, HCV, HBV: Risks Redefined?
Emily Blumberg, MD, University of Pennsylvania, Philadelphia, PA, USA

12:40 PM Q&A

12:45 PM – 1:45 PM
LUNCH (a box lunch is included in the registration fee)

1:45 PM – 2:55 PM
SESSION 5: Fungal Infections and Other Areas of Concern for Travel and Safe Living after CT TX

1:45 PM There is a Fungus Among Us. Perils from Without: Mold, Yeast, and Guidelines
Shahid Husain, MD, MS, University Health Network, Toronto, Canada

2:05 PM Perils from Within: Endemic Fungi
Me-Linh Luong, MD, St. Luc Hospital, Montreal, Canada

2:20 PM Emerging Fungal Pathogens
Robin Avery, MD, Johns Hopkins University, Baltimore, MD, USA

2:35 PM Life in the Global Community after Transplant: Travel, Safe Living and Emerging Pathogens. Real Risks Outside the Bubble: Roaming Charges
Michele Estabrook, MD, St. Louis Children’s Hospital, St. Louis, MO, USA

2:50 PM Q&A

2:55 PM – 3:10 PM
COFFEE BREAK
The pediatric mechanical circulatory support (MCS) field continues to grow and has enough unique challenges to justify an entire session dedicated to learning about pediatric support strategies. The first pediatric MCS core academy has been designed to provide education to care providers of all experience levels. The basic principles of MCS, including patient/device selection, peri-operative management, and basics of transition to home will be discussed. The goal will be to learn from didactics but also allow for discussion in order to share experiences and learn from each other.

In addition to the core academy that will be conducted at the 2017 ISHLT annual meeting, an extensive document has been written by a diverse international committee and can be found on the ISHLT education website. This document is in outline form with current references and includes all topics that are important to the management of this unique patient population.
LEARNING OBJECTIVES
At the conclusion of this meeting, participants will have improved competence and professional performance in their ability to:

1. Evaluate a patient for VAD implantation including preoperative assessment, preparation of patient prior to VAD implantation, and optimal timing of placement.

2. Understand device selection, strategies for VAD implantation, intraoperative assessment techniques and postoperative management.

3. Define device-specific anticoagulation management as well as the recognition and care of adverse events related to both temporary and chronic device therapy.

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7:00 AM – 7:45 AM
MORNING COFFEE AND REGISTRATION

7:45 AM Welcome and Overview
Angela Lorts, MD, Cincinnati Children’s Hospital, Cincinnati, OH, USA
Holger Buchholz, MD, University of Alberta Hospital, Edmonton, Canada

8:00 AM – 9:05 AM
SESSION 1: Review of the Current State of MCS in Pediatrics and Adult Congenital Heart Disease
Chair: Richard Kirk, FRCP, FRCPC

8:00 AM Current State: Durable Device Options, Indications and Outcomes (Pulsatile)
David Morales, MD, Cincinnati Children’s Hospital, Cincinnati, OH, USA
A review of current technologies available, update on future developments.

8:15 AM Current State: Durable Device Options, Indications and Outcomes (Continuous)
Martin Schweiger, MD, PhD, Children’s Hospital, Zurich, Switzerland
Overview of MCS in ACHD patients.

8:30 AM Current State: Temporary Device Options, Indications and Outcomes
Jennifer Conway, MD, Stollery Children’s Hospital, Edmonton, Canada
Overview of temporary support in variety of scenarios as bridge to other forms of support, transplantation or recovery.

8:45 AM Case Presentation with Discussion: Child Presenting with Probable Myocarditis – Device Selection for Size and Indication
Leonardo Salazar, MD, Fundacion Cardiovascular de Colombia, Bucaramanga, Colombia

9:05 AM – 10:10 AM
SESSION 2: Patient Selection
Chair: Angela Lorts, MD

9:05 AM An Art Not Always a Science – When is the Right Time for Referral?
Aamir Jeewa, MD, Texas Children’s Hospital, Houston, TX, USA
Evaluating timing for implantation.

9:20 AM Pre-VAD Work Up Prior to Implantation: Including Psychosocial Considerations

10:10 AM – 10:30 AM
COFFEE BREAK

10:30 AM – 11:20 AM
SESSION 3: Surgical Considerations for Both Pediatrics and Adult Congenital
Chair: Martin Schweiger, MD, PhD

10:30 AM VAD Implantation (Extracorporeal Berlin Heart, Temporary Continuous Flow Devices): Key Surgical Aspects
Jake Jaquiss, MD, Duke Children’s Heart Center, Durham, NC, USA
Key surgical techniques to implanting pulsatile devices in children.

10:45 AM VAD Implantation (Intracorporeal HVAD, HeartMate II): Key Surgical Aspects
Antonio Amodeo, MD, Bambino Gesu Pediatric Hospital, Rome, Italy
Key surgical techniques to implanting continuous flow devices in children.

11:00 AM Case Presentation With Discussion: Assessment of Optimal Inflow Placement with Hemodynamics and Echocardiography in the Immediate Peri-operative Setting
Lucas Eastaugh, MBBS, Royal Children’s Hospital, Melbourne, Australia

11:30 AM – 12:30 PM
SESSION 4: Outcomes
Chair: Angela Lorts, MD

11:30 AM VAD Outcomes: How Does MCS Impact the Patients Long-term Survival?
Janet Scheel, MD, Children’s National Health System, Washington, DC, USA
End-organ dysfunction and the effect on VAD patient outcome.

11:45 AM Case Presentation With Discussion: Infant With End-organ Dysfunction Patient Selection and Optimization Prior to VAD Implantation
Richard Kirk, FRCP, FRCPC, Children’s Medical Center, Dallas, TX, USA

1:00 PM – 2:00 PM
LUNCH BREAK

2:00 PM – 3:00 PM
SESSION 5: Long-term Considerations
Chair: Angela Lorts, MD

2:00 PM VAD Long-term Considerations: How Do We Avoid the Failures?
Janet Scheel, MD, Children’s National Health System, Washington, DC, USA

2:15 PM Case Presentation with Discussion: Capture Underperfusion and the Management of Ventricular Malignant Arrhythmias
Leonardo Salazar, MD, Fundacion Cardiovascular de Colombia, Bucaramanga, Colombia

3:15 PM – 4:15 PM
SESSION 6: Future Directions
Chair: Martin Schweiger, MD, PhD

3:15 PM VAD Future Directions: What Are the Next Generation Devices and How Do They Improve Care?
Oliver Miera, MD, Deutsches Herzzentrum Berlin, Berlin, Germany
Pre-VAD evaluation to be done prior to decision to implant.

3:30 PM Case Presentation With Discussion: Infant With End-organ Dysfunction Patient Selection and Optimization Prior to VAD Implantation
Richard Kirk, FRCP, FRCPC, Children’s Medical Center, Dallas, TX, USA

4:15 PM – 5:15 PM
SESSION 7: Future Directions
Chair: Angela Lorts, MD

4:15 PM VAD Future Directions: How Do We Improve Outcomes in the New Generation of VADs?
Janet Scheel, MD, Children’s National Health System, Washington, DC, USA
End-organ dysfunction and the effect on VAD patient outcome.

5:15 PM Case Presentation With Discussion: Infant With End-organ Dysfunction Patient Selection and Optimization Prior to VAD Implantation
Richard Kirk, FRCP, FRCPC, Children’s Medical Center, Dallas, TX, USA

6:00 PM
SESSION 8: Closing Remarks
Chair: Angela Lorts, MD

6:00 PM Closing Remarks
Angela Lorts, MD, Cincinnati Children’s Hospital, Cincinnati, OH, USA
Holger Buchholz, MD, University of Alberta Hospital, Edmonton, Canada

7:00 PM
SESSION 9: Networking
Chair: Angela Lorts, MD

7:00 PM Networking
Angela Lorts, MD, Cincinnati Children’s Hospital, Cincinnati, OH, USA
Holger Buchholz, MD, University of Alberta Hospital, Edmonton, Canada
### 11:20 AM – 12:00 PM
**SESSION 4: “Unique Patient Population”**  
Chair: Jennifer Conway, MD

- **11:20 AM** Case Presentation With Discussion: Adult Congenital VAD Case  
  Jake Jaquiss, MD, Duke Children’s Heart Center, Durham, NC, USA

- **11:40 AM** Case Presentation with Discussion: Adolescent Risky Behavior  
  Jenna Murray, MSN, RN, CPNP-AC, Lucile Packard Children’s Hospital, Palo Alto, CA, USA

### 12:00 PM – 1:00 PM
**LUNCH BREAK** (a box lunch is included in the registration fee)

### 1:00 PM – 2:05 PM
**SESSION 5: Peri-Operative Care of the VAD Patient**  
Chair: Leonardo Salazar, MD

- **1:00 PM** Managing the RV After LVAD Placement  
  Richard Kirk, FRCP, FRCPCH, Children’s Medical Center, Dallas, TX, USA  
  How to detect RV failure and to support the RV to prevent a Bi-VAD.

- **1:15 PM** Is There a “Standard” for Post-operative Care?  
  Angela Lorts, MD, Cincinnati Children’s Hospital, Cincinnati, OH, USA  
  Routine post-operative care of the VAD patient in both the ICU and step down unit.

- **1:30 PM** Pump Speed Optimization: Tailoring Post-operative Management to Clinical and Echocardiographic Assessment  
  Lucas Eastaugh, MBBS, Royal Children’s Hospital, Melbourne, Australia  
  Using hemodynamic monitoring to optimize the pump function.

- **1:45 PM** Case Presentation with Discussion: Driveline Infection  
  Holger Buchholz, MD, University of Alberta Hospital, Edmonton, Canada

### 2:05 PM – 3:15 PM
**SESSION 6: Hematologic Management of the Pediatric VAD Patient**  
Chair: Holger Buchholz, MD

- **2:05 PM** Overview of Anticoagulation of the Various Pump Types  
  Christina Vanderpluym, MD, Boston Children’s Hospital, Boston, MA, USA  
  Brief overview of anticoagulation goals for various pump types and how the goals differ between adults and children.

- **2:20 PM** Pump Thrombosis: Detection and Management  
  Jennifer Conway, MD, Stollery Children’s Hospital, Edmonton, Canada  
  How to determine if a pump is thrombosed and treatment options.

- **2:35 PM** Stroke in Pediatric VAD Patients: What are Our Options?  
  Oliver Miera, MD, Deutsches Herzzentrum Berlin, Berlin, Germany  
  Characterizing pediatric strokes and discussing changes in therapy after they occur.

- **2:50 PM** Case Presentation with Discussion: Tamponade Post HVAD Implantation  
  David Morales, MD, Cincinnati Children’s Hospital, Cincinnati, OH, USA

### 3:10 PM – 3:30 PM
**COFFEE BREAK**

### 3:30 PM – 5:00 PM
**SESSION 7: Now We Are Going to Send Them Home?**  
Chair: Antonio Amodeo, MD

- **3:30 PM** The Beginning of a New Program: Necessary Team Components?  
  Christina Vanderpluym, MD, Boston Children’s Hospital, Boston, MA, USA  
  The building blocks to starting a pediatric VAD program, the challenges faced, and the key elements of success.

- **3:45 PM** Preparing the Patient, Family and Community for Discharge  
  Jenna Murray, MSN, RN, CPNP-AC, Lucile Packard Children’s Hospital, Palo Alto, CA, USA  
  Creative multidisciplinary approaches to patient/caregiver education and comprehensive preparation for the local community.

### 4:00 PM The Outpatient Clinical Assessment: Blood Pressure, Laboratory Testing, Echo Monitoring and Rehabilitation

- **4:15 PM** Destination/Palliative Care Considerations  
  Janet Scheel, MD, Children’s National Health System, Washington, DC, USA  
  Challenges in offering destination therapy to a child and how to maneuver failed VAD support.

### 4:30 PM – 5:00 PM
**QUESTIONS/DISCUSSION**

- Panel members will reflect on day and open up for discussion.

### 5:00 PM – 5:15 PM
**CLOSING ADDRESS**

- Angela Lorts, MD, Cincinnati Children’s Hospital, Cincinnati, OH, USA  
- Holger Buchholz, MD, University of Alberta Hospital, Edmonton, Canada

### 5:15 PM Adjourn
ISHLT ACADEMY
MASTER CLASS IN MECHANICAL CIRCULATORY SUPPORT

TUESDAY, APRIL 4, 2017
GASLAMP AB
GASLAMP CD

SCIENTIFIC PROGRAM CHAIRS
Chair: Stavros Drakos, MD, PhD
University of Utah School of Medicine, Salt Lake City, UT, USA

Co-Chair: Ivan Netuka, MD, PhD
Institute for Clinical and Experimental Medicine, Prague, Czech Republic

SCIENTIFIC PROGRAM COMMITTEE
Keith Aaronson, MD, University of Michigan, Ann Arbor, Michigan, USA
Anson Cheung, MD, University of British Columbia, Vancouver, Canada
Chris Hayward, MD, St. Vincent’s Hospital, Sydney, Australia
Lars Lund, MD, PhD, Karolinska Institute, Stockholm, Sweden

COURSE SUMMARY
The MCS Master Class presents a unique international educational opportunity for specialists and developing experts in the field of Mechanical Circulatory Support. A concerted effort brings together faculty and experts to provide an interactive environment well beyond core competency training. The MCS Master Class is arranged in advanced breakout sessions for every participant to take full advantage of an integrated curriculum and the exceptional networking opportunity. The specific topics are devised according to defined clinical practice gaps in this fast developing specialty.
PRACTICE GAPS

1. The outcomes of cardiogenic shock have remained poor, large randomized trials are scarce and the management of these patients remains challenging. Comprehensive clinical expertise of advanced usage of evolving MCS options including patient and device selection and transition to next step therapies constitute currently major limitations in the care of these critically ill patients.

2. Specific approaches to optimize the exercise capacity of MCS patients is an unmet clinical need.

3. The disparities in the cardiac recovery outcomes observed between various centers indicate that implementing targeted patient selection and subsequently effective diagnostic and therapeutic protocols to facilitate cardiac recovery is challenging for the majority of practitioners.

4. The diagnosis and management of complex and combined adverse events such as cerebrovascular hemorrhagic accidents, device thrombosis and gastrointestinal bleeding is challenging and practitioners often face difficulties in developing effective strategies to appropriately identify and treat these adverse events.

5. The diagnostic and therapeutic approaches for early and late right ventricular failure in MCS patients has been evolving with the introduction of new diagnostic criteria and new technologies/therapeutic options. Such practice gaps in specialist knowledge and clinical skills constitute major limitations in the care of MCS patients.

6. With the rapid evolution of minimally invasive surgical approaches the individual practitioners may lack the extensive expertise required to appropriately select patients and surgical approaches to achieve the best possible outcome.

EDUCATIONAL GOALS
The overarching goal is to provide an advanced learning opportunity for specialists and developing experts in the field of MCS and devices for treatment of heart failure patients.

TARGET AUDIENCE
Cardiothoracic Surgeons and Cardiologists with MCS experience, Specialists in Heart Failure Care, allied health professionals with involvement in MCS patients, VAD and Transplant Coordinators and critical care specialists, heart transplant professionals.
LEARNING OBJECTIVES

1. Identify the challenges during the diagnosis and management of complex cardiogenic shock patients and the potential benefits of a multidisciplinary team approach.

2. List effective strategies to optimize exercise capacity and facilitate myocardial recovery in MCS patients.

3. Explain how to appropriately select patients for long-term MCS options with particular consideration in anticipated surgical management aspects.

4. Describe how to develop a systematic approach to diagnosis and therapy of complex and combined adverse events such as device thrombosis, recurrent gastrointestinal bleeding and stroke.

5. Name the diagnostic and therapeutic challenges of early and late RV failure.

ACCREDITATION STATEMENT
The International Society for Heart and Lung Transplantation (ISHLT) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CREDIT DESIGNATION STATEMENT
ISHLT designates this live activity for a maximum of 4.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ANCC CREDIT
Amedco is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center’s Commission on Accreditation.

This course is co-provided by Amedco and the International Society for Heart and Lung Transplantation (ISHLT). Maximum of 4.25 contact hours.

ACPE CREDIT
This activity may be eligible for ACPE credit, see final CPE activity announcement for specific details.

DISCLOSURE
Current guidelines state that participants in CME activities must be made aware of any affiliation or financial interest that may affect the program content or a speaker’s presentation. Planners, Faculty and Chairs participating in this meeting are required to disclose to the program audience any real or apparent conflict(s) of interest related to the content of their presentations or service as Chair/Planner. Please refer to the Participant Notification document for a list of all disclosures. Additionally, all speakers have been asked to verbally disclose at the start of their presentation if a product they are discussing is not labeled for the use under discussion or is still investigational.
SCIENTIFIC PROGRAM SCHEDULE

1:00 PM – 1:45 PM
REGISTRATION AND COFFEE

1:45 PM – 2:00 PM
WELCOME AND INTRODUCTIONS
Stavros Drakos, MD, PhD, University of Utah School of Medicine, Salt Lake City, UT, USA

2:00 PM – 3:00 PM
SMALL GROUP INTERACTIVE DISCUSSION A: Acute MCS for Profound Cardiogenic Shock/INTERMACS 0-1 Profiles
Moderator: Stavros Drakos, MD, PhD

2:00 PM Case Scenario: Management Challenges for “Crash and Burn” Patients: ‘Shock Team’ Approach to MCS
Hiroo Takayama, MD, Columbia University, NY, USA

2:30 PM Case Scenario: Transition from Short to Long-term Support
Keith Aaronson, MD, University of Michigan, Ann Arbor, MI, USA

3:05 PM – 4:05 PM
SMALL GROUP INTERACTIVE DISCUSSION B: Complex Coagulation Issues in MCS Patients
Moderator: Ivan Netuka, MD, PhD

3:05 PM Case Scenario: Recurrent GI Bleeding and Pump Thrombosis
Simon Maltais, MD, PhD, Mayo Clinic, Rochester, MN, USA

3:35 PM Case Scenario: Management of Cerebrovascular Hemorrhagic Accidents
Chris Hayward, MD, St. Vincent’s Hospital, Sydney, Australia

4:05 PM – 4:30 PM
COFFEE BREAK

4:30 PM – 5:30 PM
SMALL GROUP INTERACTIVE DISCUSSION C: Patient Selection and Management (I)
Moderator: Stavros Drakos, MD, PhD

4:30 PM Case Scenario: Bridge to Recovery: From Prediction to Implementation
Snehal Patel, MD, Einstein/Montefiore, Bronx, NY, USA

5:00 PM Case Scenario: Optimizing the Exercise Capacity of Chronic MCS Pts: Implications for Heart Recovery Assessment
Bart Meyns, MD, University Hospitals Leuven, Leuven, Belgium

5:35 PM – 6:35 PM
SMALL GROUP INTERACTIVE DISCUSSION D: Patient Selection and Management (II)
Moderator: Ivan Netuka, MD, PhD

5:35 PM Case Scenario: Early and Late RV Failure: From Prediction to Management
Lars Lund, MD, PhD, Karolinska Institute, Stockholm, Sweden

6:05 PM Case Scenario: Minimally Invasive Surgical Approaches from Implant to Explant
Anson Cheung, MD, University of British Columbia, Vancouver, Canada

6:35 PM – 6:50 PM
CLOSING REMARKS
Stavros Drakos, MD, PhD, University of Utah School of Medicine, Salt Lake City, UT, USA
Ivan Netuka, MD, PhD, Institute for Clinical and Experimental Medicine, Prague, Czech Republic
ISHLT ACADEMY
MASTER CLASS IN
PULMONARY HYPERTENSION

TUESDAY, APRIL 4, 2017
SEAPORT F
SEAPORT G

SCIENTIFIC PROGRAM CHAIRS
Co-Chair: Myung Park, MD
Houston Methodist, Houston, TX, USA

Co-Chair: Ioana Preston, MD
Tufts Medical Center, Boston, MA, USA

SCIENTIFIC PROGRAM COMMITTEE
Members: Robert Frantz, MD, Mayo Clinic, Rochester, MN, USA
Marco Guazzi, MD, PhD, IRCCS Pol San Donato, Milan, Italy
Manreet Kanwar, MD, Allegheny General Hospital, Pittsburgh, PA, USA
Steven Nathan, MD, Inova Fairfax Hospital, Falls Church, VA, USA

 COURSE SUMMARY
The Pulmonary Hypertension (PH) Master Class is intended for members with higher levels of expertise (completed the core curriculum course on PH and/or primary practice in PH ≥ 5 years) who have managed patients with one or more of the topics intended for discussion. The course setting will generate a highly interactive environment composed of a smaller group of individuals designed to enhance individual expertise and network development. Utilizing the concept of “convergent discussion” and the technique of “audience response system,” faculty moderators will use complex situations and controversial statements during practical case presentations in order to lead the group through active audience participation, towards specific answers based on practice gaps and learning objectives.

The four topics covered include: Advanced Pulmonary Arterial Hypertension (PAH Group 1); PH Due to Left Heart Failure (PH Group 2); PH Due to Advanced Lung Disease (PH Group 3); and Chronic Thromboembolic PH (CTEPH, PH Group 4). The topics chosen will cover the major aspects of various forms of PH and highlight the significant differences in the diagnosis and management of these entities.
One to two references on each topic will be recommended reading to participants in preparation for this class. We anticipate that this method of collaborative and interactive learning will lead to application and integration of new knowledge into participant practice.

**PRACTICE GAPS**

1. Advanced medical therapies and treatment algorithms for PAH have evolved tremendously in the recent years. The management of patients with advanced PAH and acute (or acute on chronic) right heart failure poses real challenges: their mortality is extremely high and salvage therapies used as bridge to a successful transplantation are complex. The implementation of advanced supportive measures in a failing right heart such as parenteral prostanoid replacement therapies, inotropic support and ECMO are often delayed or never utilized in advanced PAH patients. Recently published literature identified significant gaps in the recognition of signs that require adjustment of therapies in PAH management, including usage of parenteral therapies. Therefore, there is a real practice gap that limits their appropriate use in selected patients.

2. The presence of right ventricular dysfunction in the setting of systolic heart failure (PH due to heart failure with reduced ejection fraction, PH-HFpEF) represents a complex challenge for practitioners. The use of advanced support systems such as LVADs in the setting of right heart failure needs very careful consideration, including detailed evaluation of the RV function with noninvasive and invasive tests; heart failure specialists may lack the intricate details of these complicated patients and will benefit from the expertise of our speakers in addressing these challenging and commonly encountered issues. Lastly, PH from left ventricular diastolic dysfunction (PH-HFpEF) is often refractory to currently available therapies and its management is very challenging. Moreover, therapies that are effective for PAH Group 1 have not been carefully evaluated in PH due to heart disease (PH Group 2). Therefore, a deep understanding of the pathophysiology of PH Group 2 and how it differs (or not) from PAH Group 1 is necessary before making a decision of whether or not to treat.

3. PH due to advanced lung disease (PH Group 3) occurs in the vast majority of patients being evaluated for lung transplant and is associated with increased mortality. Identification of PH, correct determination of PH type and decision whether or not to treat are complex aspects of care of patients with advanced lung disease. Because many patients in this category are being diagnosed when PH is already advanced, there is a clear gap in early recognition of PH Group 3. Assessment of patients with lung disorders such as pulmonary fibrosis, COPD and sarcoidosis for the presence and severity of PH is therefore an important step in improving their management.

4. Annual incidence rates of deep venous thrombosis (DVT) and pulmonary embolism (PE) are approximately 0.5 to 1.0 per 1000 inhabitants and CTEPH develops in approximately 2-15% of patients who had a PE. Therefore, the estimated prevalence of CTEPH is high. Several reports highlight the significant gaps that exist between guidelines and clinical practice in regards diagnostic approaches and management of CTEPH, such as the lack of utilization of the ventilation/perfusion scan for screening and delay or omission of referral to a specialized surgical center for evaluation of operability. Therapies for CTEPH have been recently diversified and include sophisticated surgical approaches such as pulmonary endarterectomy, balloon angioplasty and medical treatment. Therefore, reviewing and clarifying the diagnostic algorithm, as well as different therapeutic approaches will be of great benefit for physicians and allied health care practitioners.
EDUCATIONAL GOALS
The overarching goal is to provide an advanced learning opportunity for specialists in the field of PH on the treatment of PAH Group 1, as well as PH in the setting of advanced left heart and lung disease and in chronic thromboembolic PH; all these entities have very different approaches in regards to management.

TARGET AUDIENCE
Pulmonologists/Respirologists, cardiologists, thoracic surgeons, nurses, physician assistants and allied health professional with experience in PH. The course is intended for health care professionals with primary practice that is focused in PH for at least 5 years or completed the ISHLT core curriculum course on PH.

LEARNING OBJECTIVES
Upon completion of the Master Class, participants will be able to:

1. Initiate advanced therapies for PAH
2. Apply advanced supportive measures in severe right heart failure
3. Manage complex patients with HFP EF and HFrEF complicated with PH
4. Understand pathophysiology, correctly diagnose and manage PH associated with advanced lung disease of different etiologies, such as emphysema, pulmonary fibrosis or sarcoidosis.
5. Correctly define the type and severity of vascular compromise in CTEPH
6. Determine the best therapeutic option in CTEPH, such as surgical eligibility, medical treatment or invasive nonsurgical approaches (balloon angioplasty).

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This course is co-provided by Amedco and the International Society for Heart and Lung Transplantation (ISHLT). Maximum of 4.25 contact hours.

ACPE CREDIT
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SCIENTIFIC PROGRAM SCHEDULE

1:15 PM – 2:00 PM
REGISTRATION AND COFFEE

2:00 PM – 2:15 PM
WELCOME AND INTRODUCTIONS
Myung Park, MD, Houston Methodist, Houston, TX, USA
Ioana Preston, MD, Tufts Medical Center, Boston, MA, USA

2:15 PM – 3:15 PM
SMALL GROUP INTERACTIVE DISCUSSION A: Advanced PAH: Challenges In Management
Moderator: Robert Frantz, MD

2:15 PM Case Scenario: Idiopathic PAH with Advanced Right Ventricular Failure
Paul Corris, MB FRCP, Freeman Hospital, Newcastle Upon Tyne, United Kingdom
Teaching/Discussion Points
a. Understanding of optimal management strategies for RV failure (diuretics, inotropes, pressors).
b. Discuss the role of atrial septostomy and ECMO.
c. Timing of lung transplantation and factors impacting outcome.

2:45 PM Case Scenario: PAH with Suboptimal Control on Double Combination Therapy: What Next?
Stephan Rosenkranz, MD, University Heart Center, Cologne, Germany
Teaching/Discussion Points
a. Utilization of optimal therapy lags behind guideline recommendations.
b. Recognition of disease progression requires sophisticated integration of clinical, imaging and hemodynamic parameters that is insufficiently employed.
c. Discussion of when to initiate parenteral therapy and various options available.
d. Recognition of practice gaps suggesting that many PAH patients with advanced disease are not initiated on parenteral therapies and discussion of possible factors influencing this outcome.

2:15 PM – 3:15 PM
SMALL GROUP INTERACTIVE DISCUSSION B: Challenges in PH Due to Left Heart Disease: An Increasingly Recognized Complication
Moderator: Marco Guazzi, MD, PhD

2:15 PM Case Scenario: PH Due to Heart Failure with Reduced Ejection Fraction
Ray Benza, MD, Allegheny General Hospital, Pittsburgh, PA, USA
Teaching/Discussion Points
a. Hemodynamic definition and its limitations
b. Epidemiology and phenotypes. Understanding the role of the right ventricle in HFrEF
c. Pathophysiology of PH-HFrEF and the importance of mitral regurgitation
d. Discussion of transplant and advanced support in the presence of PH
e. Targeting the pulmonary microcirculation; a critical appraisal of current therapies for PH-HFrEF

2:45 PM Case Scenario: PH Due to Heart Failure with Preserved Ejection Fraction
Dario Vizza, MD, University of Rome, Rome, Italy
Teaching/Discussion Points
a. Hemodynamic and clinical definitions;
b. Epidemiology and phenotypic characteristics.
c. Challenging LV filling and diastolic properties: exercise vs fluid loading
d. Challenges in the management of patients with HFpEF and significant RV dysfunction. Discussion whether targeting the pulmonary vasculature is effective and safe.
3:20 PM – 4:20 PM
SMALL GROUP INTERACTIVE DISCUSSION ROTATIONS A AND B REPEATED

4:20 PM – 4:45 PM
COFFEE BREAK

4:45 PM – 5:45 PM
SMALL GROUP INTERACTIVE DISCUSSION C: PH Due to Advanced Lung Disease
Moderator: Steven Nathan, MD

4:45 PM Case Scenario: PH Due to Combined Chronic Obstructive Lung Disease and Pulmonary Fibrosis
Fernando Torres, MD, University of Texas Southwestern Medical Center, Dallas, TX, USA

Teaching/Discussion Points
a. Understand the implications of PH in diffuse parenchymal lung disease.
b. Epidemiology: advances in screening techniques and diagnostic algorithms.
c. Interpretation of hemodynamic testing in the setting of advanced lung disease.
d. Challenges in the treatment of advanced pulmonary vascular disease in patients with COPD and IPF.
e. Clinical trial conundrums.

5:15 PM Case Scenario: PH Associated with Sarcoidosis
Oksana Shlobin, MD, Inova Fairfax Hospital, Falls Church, VA, USA

Teaching/Discussion Points
a. Is PH complicating sarcoidosis different to the PH of other forms of diffuse parenchymal lung disease?
b. What factors are unique to sarcoidosis? If PH in sarcoidosis similar to PAH Group 1?
c. Epidemiology: the role of PH screening in sarcoidosis.
d. Implications with regards to transplantation.
e. Treatment options, limitations of current therapies.

5:45 PM – 5:45 PM
SMALL GROUP INTERACTIVE DISCUSSION D: CTEPH
Moderator: Manreet Kanwar, MD

4:45 PM Case Scenario: CTEPH with Mixed Type 3 and Type 4 Disease
Irene Lang, MD, Medical University of Vienna, Vienna, Austria

Teaching/Discussion Points
a. Distal disease: What is the right therapeutic approach?
b. Is there a role for combined surgical (PTE) and medical (BPA) approach in type 3/4 combined disease?
c. Surgical challenges in patients with distal disease.
d. Optimizing patient selection for surgical candidacy in patients with high pulmonary vascular resistance and distal disease.

5:15 PM Case Scenario: CTEPH with Discordant Diagnostic Results Between Imaging, Hemodynamics and Clot Burden
William Auger, MD, University of California San Diego Medical Center, San Diego, CA, USA

Teaching/Discussion Points
a. Patient selection for optimal therapeutic options for CTEPH.
b. Predicting surgical outcomes from pre-op data.
c. Diseases that mimic CTEPH.
d. Identifying patients with likely post PTE persistent PH.

6:50 PM – 7:00 PM
CLOSING REMARKS
Myung Park, MD, Houston Methodist, Houston, TX, USA
Ioana Preston, MD, Tufts Medical Center, Boston, MA, USA
1. The Annual Meeting registration fee includes attendance at all scientific sessions, exhibit hall receptions, and coffee breaks.

2. For those whose registration is received prior to February 23, 2017 the non-member registration fee includes membership in the Society from the date of registration through December 31, 2017. You will be required to complete a membership application, which will be emailed to you, in order to activate your membership. Please mark the box provided if you do NOT wish to accept the offer of membership. Declining the offer will not result in a reduction of the non-member registration fee.

3. **DO NOT** fax your registration form if you are paying by check or bank draft. Registration forms received without payment will not be processed.

4. Individuals whose registration and payment are NOT RECEIVED by March 17, 2017 must register on-site. Registration fees are determined by the date when payment in full is received. Registration forms sent without payment in full or with invalid credit card information are subject to the registration fee in effect at the time payment in full is received or when the correct credit card information is provided.

5. Cancellations must be submitted in writing in order to qualify for any refund and should be emailed to Phyllis Glenn: phyllis.glenn@ishlt.org. For written cancellation notices RECEIVED by February 22, 2017, a full refund of the scientific session fees paid will be given, less a $100 handling fee. For written cancellation notices received after February 22, 2017, no refund of any fees will be given. All cancellation refunds will be issued approximately 15 days after the meeting.

6. **The Physician/Surgeon Rate** is available only to individuals who have achieved an MD degree or the equivalent.

7. **The Industry Rate** is available to anyone whose primary employer is a for profit commercial entity, excluding medical centers and healthcare provider. **Individuals who meet this definition may not register under any other category.**

8. **The Allied Health/Non-Physician rate** is available Individuals who have not achieved an MD or the equivalent (e.g. PhDs, non-MD researchers, nurses, pharmacists, physical therapists, psychologists, social workers, etc.) and are not pharmaceutical or device company employees/consultants should select this rate. Non-member allied health registrants must include with their registration forms a letter signed by the chief/dean of their transplant program verifying their employment and allied health status. Forms submitted without this letter will not be processed. On-line registrants must upload their verification letter.

9. **The Trainee rate** is available only to individuals who are actively participating in a formal training program (i.e. medical, graduate, and nursing students, residents, fellows, or the equivalent) should select this rate. Non-members choosing this rate must include with their registration forms a letter signed by the chief/dean of their program verifying their training status. Forms submitted without this letter will not be processed. On-line registrants must upload their verification letter.

10. Full payment in **US funds only** must accompany your registration. Checks must be made payable to ISHLT and must be drawn on a US bank. All bank fees incurred for the processing of your payment will be billed to you.

11. **Wire Transfers must be received by March 17, 2017. There will be an additional fee for wire transfers in the amount of $35 which must be paid by the sender.** Please request bank/wire transfer instructions by emailing Lee Ann Mills: leean.mills@ishlt.org.

12. **Travel agencies/sponsoring agencies will not be allowed to pick up multiple registrants’ name badges. Only the person registered for the meeting may pick up his/her name badge. No Exceptions.**

13. All registrant name changes/replacements are due by **March 17, 2017.** After this date, there will be a $25 fee for each name change/replacement.

14. **Age Restriction:** Children 12 and under are not permitted in sessions and must be accompanied by an adult at all times. Children under the age of 12 are not permitted in the Exhibit Hall at any time. A Guest registration or a President’s Cocktail Reception ticket must be purchased for children attending the President’s Cocktail Reception.
**REGISTRATION FORM**

**INTERNATIONAL SOCIETY FOR HEART AND LUNG TRANSPLANTATION**

**THIRTY-SEVENTH ANNUAL MEETING AND SCIENTIFIC SESSIONS & ISHLT ACADEMY COURSES • APRIL 4-8, 2017, SAN DIEGO, CA, USA**

**IMPORTANT:** This is a TWO-SIDED FORM. Side A and Side B

Please see page 86 for instructions, rate descriptions and refund/registration policies.

**ON-LINE REGISTRATION IS ENCOURAGED AND IS AVAILABLE ON THE ISHLT WEBSITE:**
http://www.ishlt.org/meetings/registrationHousingAndTourForms.asp

**LAST NAME:** ___________________________________________  **FIRST NAME:** ___________________________________________  **MIDDLE INITIAL:** ___________________________________________

**CREDENTIAL (MD, RN, FRCS, ETC.):** __________________________  **INSTITUTION/ORGANIZATION NAME:** ___________________________________________

Preferred Mailing Address: This MUST be the valid mailing address of the individual being registered. Travel agencies and sponsoring company addresses will not be accepted.

Please indicated if address is home or business:  **Home:**________  **Business:**________

Mailing Address: ___________________________________________

City:________________________________________________________  **State:**______________  **Post Code:**________________________  **Country:** ________________________________________

Telephone:______________________________________  **Fax:**__________________________________  **Email:** ____________________________________________________________________

**DELEGATE BADGE:**

(please print clearly below the details for your badge)

**FIRST**__________  **LAST**__________  **DEGREE**__________

**INSTITUTION / ORGANIZATION** ___________________________________________

**CITY**________________________________  **STATE** (if applicable)______________

**COUNTRY**________________________________

**ANNUAL MEETING SCIENTIFIC SESSIONS:**

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<td>$1280</td>
<td>$2410</td>
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<tr>
<td>(industry employees may not register for this category and must register in the Industry category)</td>
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<tr>
<td>Allied Health/Non-Physician Member</td>
<td>$465</td>
<td>$615</td>
<td>$1080</td>
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<tr>
<td>(industry employees may not register for this category and must register in the Industry category)</td>
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<tr>
<td>Allied Health/Non-Physician Non-Member*</td>
<td>$800</td>
<td>$950</td>
<td>$1750</td>
</tr>
<tr>
<td>(industry employees may not register for this category and must register in the Industry category)</td>
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<tr>
<td>Student/Trainee Member</td>
<td>$355</td>
<td>$505</td>
<td>$860</td>
</tr>
<tr>
<td>(industry employees may not register for this category and must register in the Industry category)</td>
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</tr>
<tr>
<td>Student/Trainee Non-Member*</td>
<td>$520</td>
<td>$670</td>
<td>$1190</td>
</tr>
<tr>
<td>(industry employees may not register for this category and must register in the Industry category)</td>
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</tbody>
</table>

**GUEST AND SOCIAL ACTIVITIES REGISTRATION:**

**GUEST ACTIVITY REGISTRATION+:**

- Without President’s Cocktail Reception  **$50**
- With President’s Cocktail Reception  **$100**  (must be purchased in advance and will not be sold on-site)

**PRESIDENT’S COCKTAIL RECEPTION:**

(Not included with Scientific Session registration; must be purchased in advance; will not be sold on-site)

- Industry Registrant  **$100**
- Physician/Surgeon/Registrant  **$50**
- Student/Trainee/Allied Health Registrant  **$25**

**SUBTOTAL SIDE A (This side of Form)**

**$**
ISHLT ACADEMY COURSES:
(please check box for the Academies you wish to register for; Core Competency Courses include a box lunch.)
- Core Competency course in Pediatric Mechanical Circulatory Support  Tuesday, April 4  (full day)
- Core Competency course in Mechanical Circulatory Support  Tuesday, April 4  (full day)
- Core Competency course in Infectious Diseases  Tuesday, April 4  (full day)
- Master Class in Mechanical Circulatory Support  Tuesday, April 4  (8 am – 1 pm)
- Master Class in Mechanical Circulatory Support  Tuesday, April 4  (2 pm – 7 pm) (repeat of morning class)
- Master Class in Pulmonary Hypertension  Tuesday, April 4  (2 pm – 7 pm)

CORE OR MASTERS ACADEMY COURSE (ISHLT Member):
$ 250 $ 300 $ ________________

CORE OR MASTERS ACADEMY COURSE (Non-member):
$ 400 $ 450 $ ________________

SYMBOLES:
* Includes membership in the Society through December 31, 2017 with completed membership application.
** Please check here if you wish to decline this membership offer (no refund or reduction of fee)
** Industry is defined as anyone whose primary employer is a for profit commercial entity, excluding medical centers and health care provider. Individuals who meet this definition may not register under any other category.
+ Includes access to the plenary sessions, exhibit hall, wine and cheese receptions. Guest MUST be accompanying a registrant in one of the other categories. Please see instruction #14 regarding age restrictions for children.
++ Registrations postmarked after March 17 will not be processed before the meeting and therefore these registrants must go to on-site registration desk to register. Registration fees for forms postmarked after March 17 will be considered on-site registrations and are subject to the on-site registration fees which are $300 more than the early bird registration fees. On-site registration for Academy courses will only be offered for those courses which are not sold out during pre-registration. Academy registration fees for forms postmarked after March 17 and for on-site academy registration are $100 more than the early bird registration fees.

JUNIOR FACULTY MENTOR LUNCH:
(Wednesday; Advance purchase only. Tickets will not be sold on-site.)
Registration is limited to the first 100 junior faculty members of ISHLT who are also registered for the meeting.
$ 15 $ 15 $ ________________

ONLINE RECORDED SESSIONS:
MEMBER PRICING: New for 2017: All ISHLT members will receive COMPLIMENTARY access to online recorded sessions for both the Annual Meeting and Core Competency Course Academies. Therefore, ISHLT members do not need to register for the online recorded sessions.
NON-MEMBER PRICING (Prices below are valid only for non-members also registering for the Annual Meeting
- Entire Annual Meeting: $ 125 $ ________________
- Entire Annual Meeting (Allied Health pricing) $ 75 $ ________________
- Entire Annual Meeting (Trainee pricing) $ 50 $ ________________

TOTAL DUE (SIDE A and B) AND ENCLOSED: $ ________________

PAYMENT:
See instruction #11 for Wire Transfer Instructions.
If not registering online, full payment in US funds only must accompany your registration form by check or credit card. Checks must be made payable to ISHLT and must be drawn on a US bank. Credit card payments are accepted with this entire form completed including all credit card information below and may be mailed or faxed. (To avoid duplicate charges do not mail AND fax your form.)

Credit Card: □ VISA □ Mastercard □ American Express
Card Number: ____________________________ Expiration Date: ________________ CSC Code:* ________________
*CSC: CREDIT CARD SECURITY CODE IS THE 3-DIGIT CODE ON THE BACK OF MC / VISA CARDS AND THE 4-DIGIT CODE ON FRONT OF AMEX CARD

Card Holder Signature: ____________________________
Card Holder Name: ____________________________ Card Holder Billing Zip/Postal Code: ____________________________
Card Holder Billing Street Address: ____________________________

SEND THIS FORM AND PAYMENT IN FULL TO:
ISHLT Registration • 14673 Midway Road, Suite 200 • Addison, TX 75001 • or fax to 972-490-9499
We’ll see you in... SAN DIEGO