

# NICE

## PRELIMINARY PROGRAM

INTERNATIONAL  
SOCIETY  
FOR HEART  
AND LUNG  
TRANSPLANTATION



## 38TH ANNUAL MEETING AND SCIENTIFIC SESSIONS



APRIL 11-14 2018

CONVENING AT  
THE ACROPOLIS  
CONGRÈS CENTRE  
NICE, FRANCE



**INTERNATIONAL SOCIETY FOR HEART  
AND LUNG TRANSPLANTATION**

**ISHLT 38th ANNUAL MEETING  
and SCIENTIFIC SESSIONS**  
April 11-14, 2018

**ISHLT ACADEMY DAY**  
April 10, 2018

**Core Competencies in  
Heart Failure and Transplantation**

**Core Competencies in  
Lung Transplantation**

**Core Competencies in  
Mechanical Circulatory Support**

**Master Class in  
Chronic Thromboembolic  
Pulmonary Hypertension**

**Master Class in  
Mechanical Circulatory Support**

**CONVENING AT THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE**



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## ISHLT

14673 Midway Road, Suite 200

Addison, TX 75001

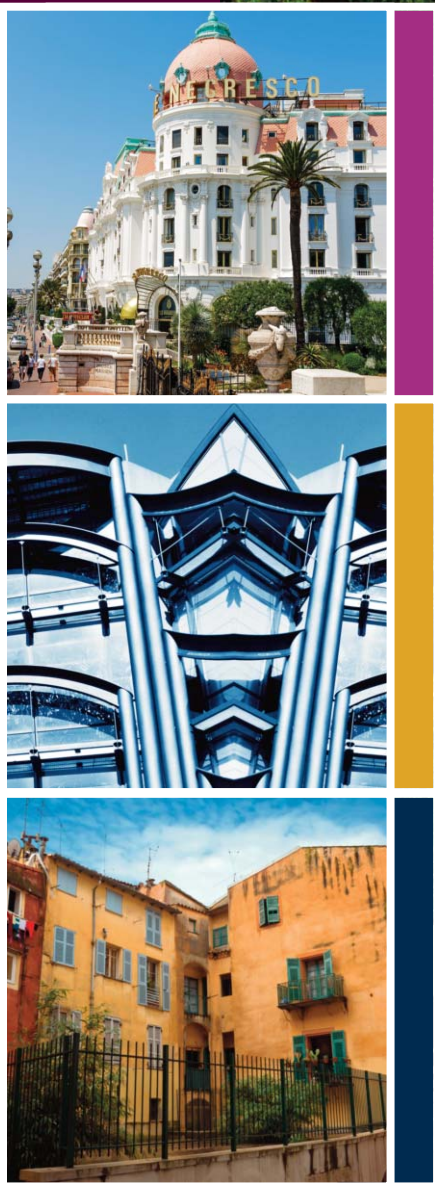
Phone: 972-490-9495

Fax: 972-490-9499

[www.ishlt.org](http://www.ishlt.org)



# AN INVITATION TO ATTEND THE 38TH ANNUAL MEETING AND SCIENTIFIC SESSIONS APRIL 11-14, 2018





Dear Colleague:

On behalf of Andrew J. Fisher, FRCP, PhD, President of the International Society for Heart and Lung Transplantation, the ISHLT Board of Directors, and the 2018 Scientific Program Committee, I have the honor of inviting you to attend the Society's 38th Annual Meeting and Scientific Sessions to be held April 11-14, 2018 in Nice, Southern France.

The 2018 Annual Meeting will take place at the Palais des Congrès Nice Acropolis, conveniently located in the heart of the center of Nice, and just 15 minutes from the airport.

We hope to continue building on the success of the 2017 San Diego Meeting, the best attended meeting in our Society's history. The 2018 Annual Meeting will begin as usual on Wednesday at 8:30am and end as usual on Saturday at 1:30pm. We will reprise the format of the San Diego Meeting, with the Opening Plenary taking place on Wednesday, after which Symposia and Oral Abstract Sessions will be scheduled throughout the week, with content clustered as much as possible by specialty to facilitate the best use of attendees' time.

The plenary sessions will feature traditional content such as registry reports, the Presidential Address, and the Lifetime Achievement Award Laudation. In addition, research from the highest scoring abstracts will be selected for featured presentation throughout plenary sessions to ensure the largest audience for our Annual Meeting's best scientific content. Further, in the Plenary Session on Friday morning entitled *"Moving Cardiothoracic Transplantation Forward,"* the Keynote Speakers from Europe and North America will discuss *"New Technologies to Advance Future Transplant Patient Care"* and *"Transplant Registries to Improve Results: It Relates to Research, Regulation, Reporting and Reimbursement."* As food for thought, Professor Simon Hoerstrup from the Zurich Institute for Regenerative Medicine will address the topic of *"Tissue-Engineered Matrix to Generate Organs."* The Closing Plenary Session sums up our Nice Meeting's basic and clinical science highlights and traditionally features the President's Debate. In Nice, debate contestants Gregory Snell from Melbourne and Howard Eisen from Philadelphia battle about the *"DCDo's and DCDon'ts – We DCDo and We DCDon't."* The two internationally highly regarded transplant physicians promise undoubtedly logical consistency and factual precision but also emotional appeal to the audience in their debate, certainly the program's climax.

I look forward to welcoming you to Nice, La Belle, for the 38th ISHLT Annual Meeting and Scientific Sessions!

Warmest regards,



Christian Benden, MD, FCCP  
Scientific Program Chair  
ISHLT 38th Annual Meeting and Scientific Sessions

# about ISHLT

## THE INTERNATIONAL SOCIETY FOR HEART AND LUNG TRANSPLANTATION

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 3800 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.

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.







# The PURPOSES of the ISHLT SOCIETY are:

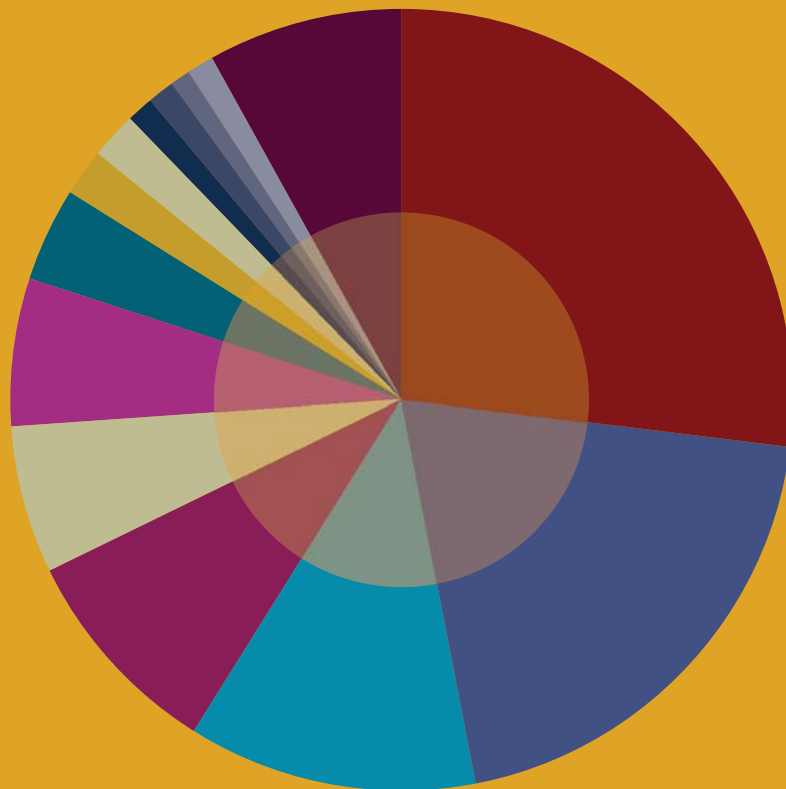
- 1** Promoting the association of persons interested in the fields of heart and lung transplantation, end-stage heart and lung disease and related sciences;
- 2** Encouraging and stimulating basic and clinical research in heart and lung transplantation and end-stage heart and lung disease and promoting new therapeutic strategies;
- 3** Holding scientific meetings featuring presentations and discussions relevant to heart and lung transplantation and the treatment of end-stage heart and lung disease;
- 4** Sponsoring a scientific journal for the publication of manuscripts related to these disciplines;
- 5** Maintaining an international registry for heart and lung transplantation;
- 6** Awarding research grants and establishing endowments for the study of heart and lung transplantation and end-stage heart and lung disease, when funds are available and without jeopardizing the financial well-being of the organization; and
- 7** Sponsoring and conducting educational activities and providing educational resources, which promote expert development and improve standards of care in advance heart and lung disease, heart and lung transplantation and relevant medical and device therapies.

# MEETING DELEGATES BY PROFESSIONAL SPECIALTY



The figures below depict the diversity of our meeting delegates:

- 27%** CARDIOLOGISTS
- 20%** CARDIOTHORACIC SURGEONS
- 12%** ALLIED HEALTH PROFESSIONALS
- 9%** PULMONOLOGISTS
- 6%** RESEARCHERS
- 6%** INDUSTRY
- 4%** PHARMACISTS
- 2%** INFECTIOUS DISEASE SPECIALISTS
- 2%** OTHER
- 1%** PATHOLOGISTS
- 1%** IMMUNOLOGISTS
- 1%** ANESTHESIOLOGISTS
- 1%** PHYSICIAN ASSISTANTS
- 8%** UNKNOWN





# Noteworthy Information For The Nice Meeting

Please note the following important information about changes and new offerings associated with the Nice meeting.

- The registration fees include a mandatory 20% French value-added tax. Please note that VAT taxes for registration fees paid by corporations with a VAT # or a Tax ID# may be reclaimed from the French government. VAT paid by individuals may not be reclaimed.
- Tickets to the President's Cocktail Reception are not included with registration and must be purchased in advance via the registration form. Tickets will NOT be available for sale on site and attendance at the Reception is limited to 1000. The ticket price on the registration form represents a significantly discounted price, not the actual cost of the event.
- Hotel reservations must be made online via La Maison by GTS. The ISHLT room blocks are being held only through January, so please book early.
- Your paid registration fee includes a 5-day transportation pass. This pass provides free transport on the Métropole Nice Côte d'Azur public transport network (bus and tramway) throughout Nice from Tuesday through Saturday. Transportation passes will be distributed from the registration desk beginning on Tuesday afternoon.
- Hotel rates in Nice usually include taxes and breakfast.
- The scientific sessions will begin each day at 8:30 AM. We will not conduct any sunrise symposia at the Nice meeting, however Council meetings will take place from 7:15 – 8:15 am. Coffee and croissants will be provided in the exhibit hall each morning from 8:00 am – 8:30 am.



# General Information



## MEETING LOCATION

The ISHLT 38th Annual Meeting and Scientific Sessions will be held at the Palais des Congrès Nice Acropolis, 1 Esplanade Kennedy, Nice, France.

## REGISTRATION

Registration for the meeting must be made online via the ISHLT web site <http://www.isHLT.org/meetings/registrationHousingAndTourForms.asp> or via the Official ISHLT Registration Form included in the Preliminary Program PDF. 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, 2018. A \$150 discount off the on-site registration fee is offered to those who register between February 23 and March 12, 2018. Individuals who have not registered on or before March 12, 2018 must register on-site at the meeting. A confirmation letter will be emailed to all individuals who register on or before March 12, 2018. The registration fee includes admission into all scientific sessions, the Exhibit Hall, the exhibit hall receptions and coffee breaks.



LE NEGRESKO is one of the most unique hotels in the world. A famous Belle Époque landmark that graces the Promenade des Anglais, the hotel has welcomed celebrities and heads of state for over 100 years. The owner, Madame Jeanne Augier, reinvigorated the hotel with luxurious decorations and furnishings, including an outstanding art collection and rooms with mink bedspreads. The hotel-cum-museum has been listed as a Historical Monument since 1974, and is home to 3000 objets d'art including 1600 original paintings (one of three full-length portraits of Louis XIV is in the Versailles Ballroom, the other two being the Louvre and Versailles). The spectacular Baccarat 16,309-crystal chandelier in the Negresco's Royal Lounge was commissioned by Czar Nicholas II who, due to the October revolution, was unable to take delivery. Noted for its doormen dressed in the manner of the staff in 18th-century elite bourgeois households, the hotel also offers renowned Michelin 2-star gourmet dining at the Regency-style Le Chantecler restaurant. Normally, access to the hotel and its artworks is limited to guests of the hotel. This gala will provide a special opportunity for ISHLT members to visit this unique venue.



PRESIDENT'S

COCKTAIL

RECEPTION

FRIDAY, APRIL 13

LE NEGRESKO PALACE



Tickets are not included with the registration fee and must be purchased in advance. Tickets will not be sold on-site. Attendance is limited to 1000.





## INDIVIDUAL HOTEL RESERVATIONS

ISHLT has arranged group rates at a number of local hotels, and reservations are being coordinated through La Maison by GTS. Hotel information, rates and online booking information are available at <http://ishlt.lamaisonbygts.com>. To obtain the ISHLT discounted rates, you must make your hotel reservations directly via the La Maison by GTS site. Room blocks are being held only through January and are limited so please book early.

For additional housing inquiries please contact La Maison by GTS, email: [ishltnice@lamaisonbygts.com](mailto:ishltnice@lamaisonbygts.com).

## GROUP HOTEL RESERVATIONS

Group housing blocks should be coordinated directly with La Maison by GTS. Please contact La Maison by GTS at email: [ishltnice@lamaisonbygts.com](mailto:ishltnice@lamaisonbygts.com) to secure group blocks of reservations.

## GUEST ACTIVITIES

A variety of private tours of Nice and the surrounding areas have been arranged for guests. These tours are being coordinated through La Maison by GTS.

General tour descriptions, pricing, and reservations are available at <http://ishlt.lamaisonbygts.com>. For additional inquiries regarding these tours please contact La Maison by GTS at email: [ishltnice@lamaisonbygts.com](mailto:ishltnice@lamaisonbygts.com).



# CONTINUING EDUCATION INFORMATION

## ACCME

### 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 and allied health professionals.

## CME

### Credit Designation Statement

ISHLT designates this live activity for a maximum of 29 *AMA PRA Category 1 Credits*.™ Participants should claim only the credit commensurate with the extent of their participation in the activity.

## ABTC Accreditation

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

## ACPE Accreditation

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

## ANCC Accreditation

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 29.00 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 NEED

Because of the rapid advances in patient health care in general and end-stage heart and lung disease management in particular, professionals are in need of regular opportunities to update and maintain their knowledge of advances and changes in the field. 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 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 International Society for Heart and Lung Transplantation is a leading organization providing education for medical professionals involved in the care and treatment of patients with end-stage heart and lung disease. The audience for this program includes physicians, surgeons, scientists, pharmacists, nurses, transplant coordinators and other allied health and social science professionals engaged in 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 other specialties which cause them to become involved in the treatment of transplant recipients or patients with end-stage heart or lung disease.



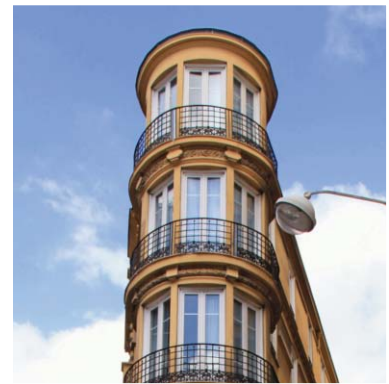
# Learning Objectives

## For the 38th Annual Meeting and Scientific Sessions

**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.



# ANNUAL MEETING SCIENTIFIC PROGRAM COMMITTEE

## ✕ Symposium Planning Committee

- ✕ ★ Christian Benden, MD, FCCP, Zurich, Switzerland, 2018 Program Chair
- ✕ ★ Andrew J. Fisher, FRCP, PhD, Newcastle Upon Tyne, United Kingdom, ISHLT President
- ✕ ★ Jeffrey J. Teuteberg, MD, Stanford, CA, USA, 2017 Program Chair
- ✕ ★ Lara Danziger-Isakov, MD, MPH, Cincinnati, OH, USA, 2019 Program Chair
- ★ Francisco Arabia, MD, Los Angeles, CA, USA
- ✕ ★ Saima Aslam, MD, MS, San Diego, CA, USA
- ✕ ★ Raymond Benza, MD, Pittsburgh, PA, USA
- ✕ ★ Alexander Bernhardt, MD, Hamburg, Germany
- ★ Nancy P. Blumenthal, CRNP, Philadelphia, PA, USA
- ★ Sharon Chih, MD, Ottawa, ON, Canada
- ★ Agnieszka Ciarka, MD, Leuven, Belgium
- ★ Stephen C. Clark, FRCS, Newcastle Upon Tyne, United Kingdom
- ✕ ★ Rachel Crackett, MSc, Newcastle Upon Tyne, United Kingdom
- ★ Marcelo Cypel, MD, Toronto, ON, Canada
- ★ Kyle L. Dawson, PharmD, MBA, BCPS, Lexington, KY, USA
- ✕ ★ Teresa De Marco, MD, FACC, San Francisco, CA, USA
- ✕ ★ Howard J. Eisen, MD, Philadelphia, PA, USA
- ★ Sitaramesh Emani, MD, Columbus, OH, USA
- ✕ ★ Melanie Everitt, MD, Aurora, CO, USA
- ★ Savitri E. Fedson, MD, Houston, TX, USA
- ✕ ★ Rochelle Gellatly, PharmD, Melbourne, Australia
- ✕ ★ Ranny Goldwasser, MD, Heidelberg, Germany
- ★ Mark Greer, MB Bch, Hannover, Germany
- ✕ ★ Matthew Hartwig, MD, Durham, NC, USA
- ✕ ★ Are Martin Holm, MD, PhD, Oslo, Norway

## ★ Abstract Selection Committee

- ✕ ★ Ulrich Jorde, MD, Bronx, NY, USA
- ★ Jason N. Katz, MD, MHS, Chapel Hill, NC, USA
- ★ Mary E. Keebler, MD, Nashville, TN, USA
- ★ Ahmet Kilic, MD, Columbus, OH, USA
- ★ Ivan Knezevic, MD, Ljubljana, Slovenia
- ★ Antonio Loforte, MD, PhD, Bologna, Italy
- ✕ ★ Monique Malouf, FRACP, Sydney, Australia
- ★ Marco Masetti, MD, PhD, Bologna, Italy
- ✕ ★ Mandeep R. Mehra, MD, MBBS, FACC, FACP, Boston, MA, USA, JHLT Editor
- ★ Joshua J. Mooney, MD, Stanford, CA, USA
- ✕ ★ Orla Morrissey, MD, Melbourne, Australia
- ✕ ★ Sanem Nalbantgil, MD, Izmir, Turkey
- ✕ ★ Alexandra Rice, FRCPath, London, United Kingdom
- ★ Macé M. Schuurmans, MD, Zurich, Switzerland
- ★ Ashish S. Shah, MD, Nashville, TN, USA
- ✕ ★ Michael Shullo, PharmD, Pittsburgh, PA, USA
- ✕ ★ Jorge Silva Enciso, MD, San Diego, CA, USA
- ✕ ★ Marc Simon, MD, Pittsburgh, PA, USA
- ★ Melinda P. Solomon, MD, FRCPC, Toronto, ON, Canada
- ✕ ★ Carmela Tan, MD, Cleveland, OH, USA
- ✕ ★ Mitesh Thakrar, MD, Calgary, AB, Canada
- ★ Thenappan Thenappan, MD, Minneapolis, MN, USA
- ✕ ★ Marian Urban, MD, Newcastle Upon Tyne, United Kingdom
- ✕ ★ Stijn Verleden, PhD, Leuven, Belgium
- ✕ ★ Chris Wigfield, MD, FRCS, Chicago, IL, USA, Medical Director of Education
- ✕ ★ Keith Wille, MD, MSPH, Birmingham, AL, USA
- ✕ ★ Quincy Young, PhD, RPsych, Vancouver, BC, Canada



# ACRONYMS

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:

<b>BSTR</b>	Basic Science and Translational Research
<b>EEP</b>	Economics, Ethics, Public Policy
<b>HF/HTX</b>	Heart Failure/ Transplantation – Adult
<b>ID</b>	Infectious Diseases
<b>LF/LTX</b>	Lung Failure/ Transplantation – Adult
<b>MCS</b>	Mechanical Circulatory Support – Adult
<b>NHSAH</b>	Nursing, Health Science, and Allied Health
<b>PATH</b>	Pathology
<b>PEDS</b>	Pediatrics
<b>PHARM</b>	Pharmacy and Pharmacology
<b>PH</b>	Pulmonary Hypertension





# SYMPOSIA HIGHLIGHTS

## of the ANNUAL MEETING



BASIC SCIENCE AND TRANSLATIONAL RESEARCH (BSTR) HEART FAILURE/TRANSPLANTATION  
(HF/HTX) INFECTIOUS DISEASES (ID) LUNG FAILURE/TRANSPLANTATION (LF/LTX) MECHANICAL  
CIRCULATORY SUPPORT (MCS) NURSING, HEALTH SCIENCES AND ALLIED HEALTH (NNSAH) PATHOLOGY  
(PATH) PEDIATRICS (PEDI) PHARMACY & PHARMACOLOGY (PHARM) PULMONARY HYPERTENSION (PH)  
AND CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH)



## BASIC SCIENCE AND TRANSLATIONAL RESEARCH (BSTR)

At this year's symposia focused on basic and translational science topics, participants will be provided with sound and selective updates in applied science and novel research methods relevant for scientists and specialists in heart and lung transplantation, as well as allied professionals. This year's foci will appraise the "evolution" of our understanding of cell population subsets in immune processes and their interactions. Amaze your friends with the knowledge you acquire in ***OLD CELLS NEW TRICKS: Updates in Transplant Immunology***. The second emphasis will be on the emerging tools currently tackling research challenges to produce a "revolution" in translational science. You will learn about these in ***Novel Tools in Transplant Research (Say You Want a Revolution...)***. So come one, come all to the ISHLT in Nice and be amazed.



## HEART FAILURE/TRANSPLANTATION (HF/HTX)

This year's heart symposia will feature a diverse range of topics, focusing on practical aspects surrounding heart transplantation and providing perspectives to hotly debated controversies in our daily clinical practice, appealing to a broad audience of cardiologists, surgeons, nurses and allied health care professionals. ***We Never Stop Learning: 50th Anniversary of Heart Transplantation*** will wind back the clock to the early days of heart transplantation with its surgical challenges, changes in patient selection, evolution of immunosuppression, developing and refining the definition of rejection, as well as the role ISHLT played in its advancement. The session will also include the unique experience of the longest surviving heart transplant recipient in the world. ***Adult Congenital Heart Disease: Reaching the Summit*** will bring an exciting set of lectures dedicated to the growing population of patients with congenital diseases surviving to adulthood. ***Cardio-Oncology: A Tale of Two Problems*** will discuss the challenging problem of concurrent heart failure and oncological disease. ***Too Frail to Rock and Roll, Too Young to Die*** will delve into the role of frailty in heart transplantation. The very clinically oriented symposium, ***First Days of a New Life: Management After Heart Transplantation***, will focus on practical issues relative to pre-transplant optimization, ICU post-transplant haemodynamic and rhythm management, and optimal management of early graft failure. Our program highlight will be ***"The Heat Is On" – Great Debates in Heart Transplantation***, where brief case presentations by junior faculty will set the stage for each debate by expert faculty with the audience declaring a winner. Controversial debate topics include utilization of donors with low ejection fraction, Hepatitis C positive status and the value of desensitization strategies in the highly allosensitized heart transplant candidate. This session will further engage the audience with a final panel discussion. We hope the lessons learned during the 2018 meeting will have a lasting positive impact on your clinical practice.



## INFECTIOUS DISEASES (ID)

We have an exciting meeting in store for our Infectious Diseases colleagues and ID “wannabes.” For the first time, we have partnered with the Transplant Infectious Diseases section of The Transplantation Society to bring you the **ISHLT/TTS-TID Joint Symposium: Infectious Challenges Around the World – Common Threads**. This unique symposium will assemble internationally renowned transplant ID physicians to discuss a diverse range of issues including arboviral infections, cryptococcosis, CMV guidelines, multi-drug resistant pathogens, donor screening and parasitic infections. The multidisciplinary symposium **Cytomegalovirus (CMV) in Thoracic Organ Transplantation – A Changing Landscape** will tackle different aspects of CMV including the continuum between viremia and disease, use of immunoglobulins, duration of prophylaxis, immunoassays, management strategies for difficult cases and pharmacology/toxicity of the drugs used to treat CMV. The overall scientific program includes a smattering of ID topics in other symposia – hepatitis C organ debate, overview of mechanical circulatory support infections, *Aspergillus* in cystic fibrosis patients, and talks on microbiome/virome in lung transplant recipients.

## LUNG FAILURE/ TRANSPLANTATION (LF/LTX)

At the ISHLT 2018 Annual Meeting, five symposia will address hot topics in lung transplantation. The scarcity of organs available for transplant remains a challenge in lung transplantation, and using organs procured by donation after circulatory death (DCD) may be a way to increase the number of available organs. **DCD Lungs – Expanding Utilization** will address some of the challenges and controversies related to establishing a DCD program. The impact of novel antifibrotic drugs and drugs for patients with CF on the perioperative care and postoperative follow-up of lung transplant recipients will be discussed in **Can My Lung Transplant Recipient Take This Medication** and in separate talks, traditional drugs such as neurotropic drugs and the use of anticoagulation will be addressed. **Cystic Fibrosis in Lung Transplantation: Controversial Topics**, will address clinical, pharmacological, surgical and other challenges specific to CF patients. **Antibody-Mediated Rejection After Lung Transplantation – 2018** will discuss some of the uncertainties and controversies of AMR as a cause of allograft rejection. How are HLA-antibodies detected? What are the pathological findings in AMR? How should AMR be treated? Finally, the greatest challenge to long term success after lung transplantation is the development of chronic lung allograft dysfunction (CLAD). There are still many unknowns regarding the diagnosis, risk factors, phenotypes and treatment of this condition. These issues will be examined in **Chronic Lung Allograft Dysfunction (CLAD): Where Are We?** In summary, these five pulmonary-focused symposia at ISHLT 2018 will present scientific data and expert opinions of high clinical relevance to everyone who works in the field of lung transplantation.





## MCS

### MECHANICAL CIRCULATORY SUPPORT (MCS)

If you are interested in MCS, you are in for a terrific experience at the Nice 2018 meeting with five dedicated symposia offering a wide range of MCS topics. ***A Forgotten Organ – The Vascular System on Continuous Flow LVAD Support*** will feature a primer on the vascular physiology and the impact of low pulsatility on angiogenesis, renal function and cerebral autoregulation. The right ventricle continues to vex our field and we will delve into the impact of RV dysfunction on exercise physiology and end-organ function, define the best modalities to characterize RV function and discuss novel medical and surgical approaches to its treatment in ***The Role of the RV in Advanced Heart Failure and LVADs***. One of the hottest topics in MCS is the interface of pacing technologies and LVADs and this will be discussed in detail in ***It's Electric! Electrophysiologic Management of the LVAD Patient*** where we will debate the merits of intra-operative VT ablation and the benefits of resynchronization therapy after LVAD. The emerging role of short term MCS in cardiogenic shock, decision making in patients with shock and the transition to durable support will be the centerpiece of the ***Crashing and Burning: Cardiogenic Shock and Short-Term MCS***. Lastly, don't miss the cutting-edge talks on MCS complications in ***Rapid Update on MCS Complications, and Management: The Unpublished***, which will offer the latest twists on anticoagulation and pump optimization in addition to the most recent insights into the management of common problems such as stroke, infection and hemolysis. In this rapidly expanding field, we are excited to bring you the latest insights into non-pulsatile physiology as well as many expert tips on how to optimize results with current MCS technology.



# NHSAH · PATH

## NURSING, HEALTH SCIENCES AND ALLIED HEALTH (NHSAH)

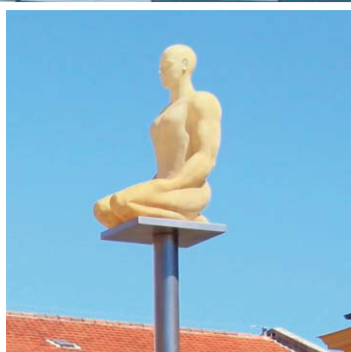
Nursing and Allied Health-focused sessions will kick off the Annual Meeting on Wednesday in Nice so plan to arrive early! Transplant teams are faced daily with complex, ethically-loaded decisions. Such decisions are even more challenging and distressing when the patient at hand is a young person. ***The Young and the Restless: Unique Issues in Cardiothoracic Transplantation and Mechanical Support from Children to Young Adults*** will highlight common challenging decisions faced by providers, and review the evidence base related to such decisions. Novel patient-reported data on end-of-life care preferences and clinically derived tools for improving practice will be shared. The symposium will conclude with a complex case presentation of a young adult presenting for re-transplantation which highlights the issues uncovered in previous presentations. Audience participation will be encouraged during a question and answer period with the panel of presenters. The multi-disciplinary symposium, ***Too Frail to Rock and Roll, Too Young to Die***, will examine frailty in cardiothoracic transplantation and mechanical support. With health care becoming ever more complex, the issue of frailty needs to be addressed and more fully understood. Presentations on the assessment of frailty and pharmacological issues in the frail will be included, rounded out by an exploration of shared decision making and multidisciplinary considerations for the older candidate and recipient, including a focus on cognition and mood.



## PATHOLOGY (PATH)

The pathologist plays a key role in the thoracic transplant team. Through case discussions, ***A Day in the Life: The Pathologist as a Member of the Thoracic Transplant Team*** will focus on the contribution of the pathologist to patient care, quality assurance and research. Lectures will explore some of the diagnostic difficulties faced by pathologists in the assessment of native and transplanted organs, and how these may be resolved by multidisciplinary teamwork and new advances including molecular pathology.









## PEDS

### PEDIATRICS (PEDS)

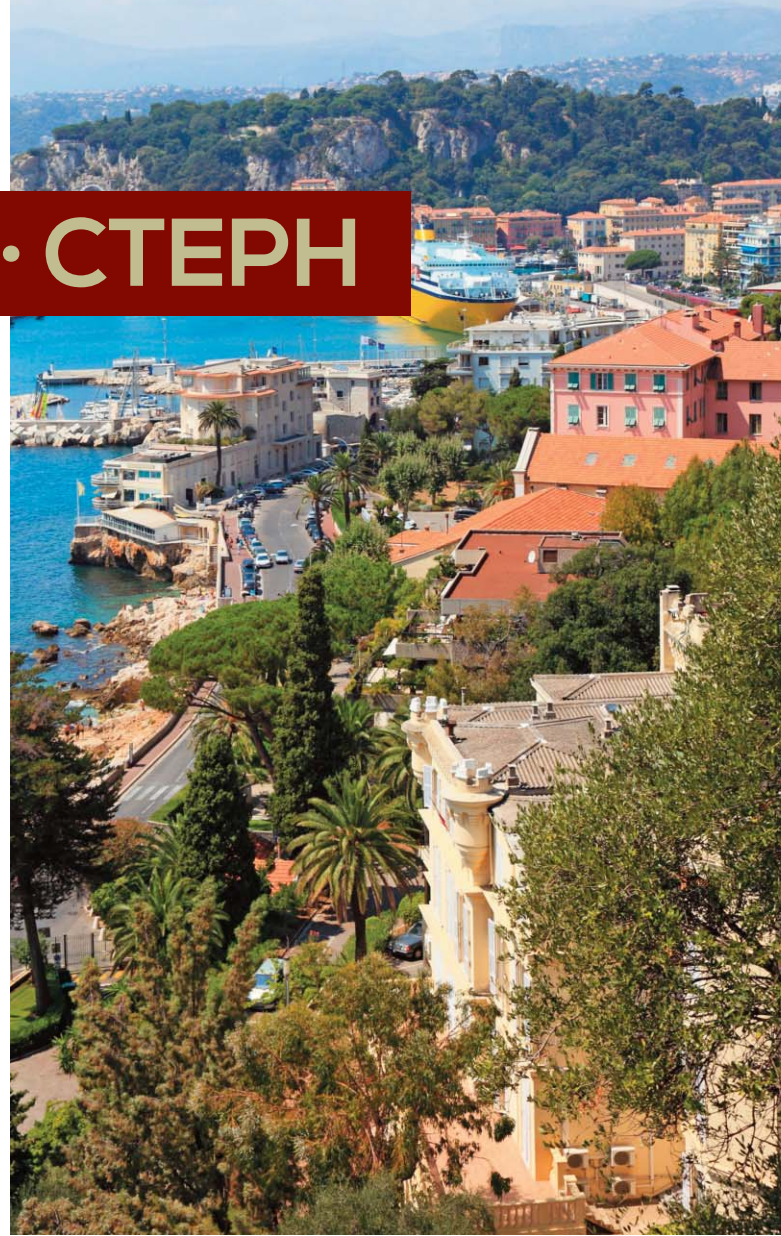
Pediatric thoracic transplantation requires expertise in acute and chronic multi-organ failure and mechanical support both before and after transplantation. In Nice, attendees will find an array of topics that span the continuum of care for pediatric patients. ***Pediatric Heart Failure: MCS, ICU Care and Early Graft Failure*** will cover the evaluation and treatment of the failing heart before and after heart transplant. Topics will include the treatment of acute heart failure while awaiting heart transplant and care in the ICU after transplantation. Short-term circulatory support, management of the positive crossmatch patient, and early graft failure are a few of the highly-anticipated talks. ***Retransplantation in the Child to Young Adult – History Repeating Itself?*** will address the challenges of decision-making in the pediatric heart or lung transplant recipient with graft failure. When is the right time and who is the right patient for re-transplantation? And be sure not to miss ***Too Little or Too Much: Controversies in Monitoring After Pediatric Thoracic Transplantation***. These great debates will investigate the questions around routine invasive monitoring in pediatric heart recipients and lung recipients. Be sure to schedule time for ***The Young and the Restless: Unique Challenges in Cardiothoracic Transplantation and Mechanical Support from Children to Young Adults*** which will include discussions of adherence, transition and communication tools. These topics will be distinctly applicable to our patient population and will be tackled by leading experts in the field. In addition to these pediatric symposia, don't overlook the many other symposia throughout the program of interest to pediatric thoracic transplant attendees.



# PHARM · PH · CTEPH

## PHARMACY AND PHARMACOLOGY (PHARM)

Malignancy has significant effects in thoracic transplant, both limiting listing options and causing morbidity and mortality after transplantation. As such, management questions exist in post-transplant malignancy. What are the risk factors for developing malignancy post-transplant and how do we modify them? What is the role of anti-CMV prophylaxis with respect to EBV reactivation? Is there a period during and after chemotherapy where risk of rejection fluctuates? What immunosuppressants have heightened roles after successful treatment? These questions will be tackled in ***Malignancy in Transplantation: Too Much, Too Early or Too Little, Too Late?*** We will discuss the approach to the thoracic transplant recipient who has risk factors for developing cancer post transplant or who has already developed cancer after transplantation. This session will appeal to all members of ISHLT who work with thoracic transplant recipients.



## PULMONARY HYPERTENSION (PH) and CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH)

Pulmonary Hypertension and CTEPH are sure to be the show stoppers in Nice with four symposia at the ISHLT Annual Meeting! ISHLT is partnering with the European Society of Cardiology (ESC) this year for a joint symposium in which experts in the field from both Societies will take a unique and hard look at ***Pulmonary Hypertension Due to Left Heart Disease: When RIGHT Meets LEFT***. In ***Great Debates in the Management of PAH: Genetics, Bridge to Lung Transplant and Goal Directed Therapy***, through a series of three pro-con debates, experts will go head to head on provocative questions at the cutting edge of care. Debaters will take on genomics vs. proteomics to guide therapy, the use of ECLS vs. atrial septostomy and a sure to be lively debate of the REVEAL scoring system vs. the ESC goal-directed therapy approach in PAH. And for CTEPH, thought leaders will be discussing risk factors and disease evolution, along with the latest developments in diagnosis and therapies available to patients in ***The Devil is in the Details – Nuances in CTEPH***. More controversial topics will be addressed in ***CTEPH: Challenges in Intervention Decision Making***. Case presentations will provide the stimulus for debates focused on distal vessel CTEPH, on what to do for patients with symptomatic chronic thromboembolic disease without pulmonary hypertension at rest and on the emerging role of balloon pulmonary angioplasty vis-à-vis pulmonary endarterectomy.



# SCHEDULE

# at a GLANCE



**Monday, April 9, 2018**

**4:00 PM - 7:00 PM**

ACADEMY REGISTRATION OPEN

(AGORA 1)

SPEAKER READY ROOM OPEN

(HERMES LOUNGE)



*ISHLT Scientific Sessions* • SCHEDULE AT A GLANCE  
**Tuesday, April 10, 2018**

**7:00 AM - 3:00 PM**

ACADEMY REGISTRATION OPEN  
(AGORA 1)

**7:00 AM - 7:00 PM**

SPEAKER READY ROOM OPEN  
(HERMES LOUNGE)

**7:55 AM - 5:30 PM**

**ISHLT ACADEMY:**  
CORE COMPETENCIES IN HEART FAILURE  
AND CARDIAC TRANSPLANTATION  
(MEDITERRANEE ABC)

**7:55 AM - 5:45 PM**

**ISHLT ACADEMY:**  
CORE COMPETENCIES IN LUNG  
TRANSPLANTATION  
(HERMES)

**8:00 AM - 1:00 PM**

**ISHLT ACADEMY:**  
MASTER CLASS IN MECHANICAL  
CIRCULATORY SUPPORT  
(CLIO, THALIE)

**8:00 AM - 2:00 PM**

ISHLT BOARD OF DIRECTORS MEETING  
(GALLIENI 4)

**8:00 AM - 5:30 PM**

**ISHLT ACADEMY:**  
CORE COMPETENCIES IN MECHANICAL  
CIRCULATORY SUPPORT  
(ATHENA)

**2:00 PM - 5:00 PM**

ISHLT BOARD/COMMITTEE/COUNCIL  
LEADERSHIP ORIENTATION  
(GALLIENI 5)

**2:00 PM - 7:00 PM**

**ISHLT ACADEMY:**  
MASTER CLASS IN MECHANICAL  
CIRCULATORY SUPPORT  
(CLIO, THALIE)

**ISHLT ACADEMY:**  
MASTER CLASS IN CHRONIC  
THROMBOEMBOLIC PULMONARY  
HYPERTENSION  
(ERATO, URANIE)

**5:00 PM - 6:00 PM**

EDUCATION COMMITTEE MEETING  
(GALLIENI 3)

I2C2 COMMITTEE MEETING  
(GALLIENI 4)

TRANSPLANT REGISTRY  
COMMITTEE MEETING  
(GALLIENI 7)

STANDARDS & GUIDELINES  
COMMITTEE MEETING  
(GALLIENI CONFERENCE OFFICE 1)

**5:00 PM - 7:00 PM**

ANNUAL MEETING  
REGISTRATION OPEN  
(AGORA 1)

PRESS ROOM OPEN  
(GALLIENI 6)

TUESDAY • APRIL 10 • 2018

ISHLT Scientific Sessions • SCHEDULE AT A GLANCE

# Wednesday, April 11, 2018

**7:00 AM – 7:00 PM**

ANNUAL MEETING REGISTRATION OPEN  
(AGORA 1)

SPEAKER READY ROOM OPEN  
(HERMES LOUNGE)

**7:00 AM – 8:00 AM**

EXHIBITOR SET-UP  
(RHODES)

**7:00 AM – 10:00 AM**

POSTER SESSION 1 MOUNT  
(MUSES NORD, EUTERPE, AGORA 2,  
AGORA 3, GALLIENI 1-2)

**7:15 AM – 8:15 AM**

CHRONIC THROMBOEMBOLIC PULMONARY  
HYPERTENSION SCIENTIFIC COUNCIL MEETING  
(ATHENA)

BASIC SCIENCE AND TRANSLATIONAL  
RESEARCH SCIENTIFIC COUNCIL MEETING  
(CLIO/THALIE/ERATO)

NURSING, HEALTH SCIENCES AND ALLIED  
HEALTH SCIENTIFIC COUNCIL MEETING  
(URANIE/CALIOPE)

PHARMACY AND PHARMACOLOGY  
SCIENTIFIC COUNCIL MEETING  
(HERMES)

DCD REGISTRY COMMITTEE MEETING  
(GALLIENI 3)

IMACS REGISTRY COMMITTEE MEETING  
(GALLIENI 4)

**8:00 AM – 8:30 AM**

COFFEE AND CROISSANTS  
(RHODES EXHIBIT HALL)

**8:00 AM – 7:15 PM**

EXHIBIT HALL OPEN  
(RHODES)

**8:30 AM – 10:00 AM**

ORAL SESSIONS 1-7

**9:00 AM – 7:00 PM**

PRESS OFFICE OPEN  
(GALLIENI 6)

**10:00 AM – 10:30 AM**

COFFEE BREAK  
(RHODES EXHIBIT HALL)

**10:00 AM – 7:15 PM**

POSTER HALL OPEN  
(MUSES NORD, EUTERPE, AGORA 2,  
AGORA 3, GALLIENI 1-2)

**10:30 AM – 12:30 PM**

OPENING PLENARY SESSION  
(APOLLON)

Primary Audience: **ALL**

**12:30 PM – 2:00 PM**

LUNCH BREAK  
(Lunch will not be available at the  
Acropolis Congrès Centre)

JUNIOR FACULTY MENTOR LUNCH  
(GALLIENI 5)

**12:45 PM – 1:45 PM**

EXHIBIT HALL CLOSED  
(RHODES)

**2:00 PM – 4:00 PM**

SYMPOSIUM 01. *The Devil Wears Prada –  
The Role of the RV in Advanced Heart Failure  
and LVADs*

(APOLLON)

Primary Audience: **MCS**  
Secondary Audience: **HF/HTX, NNSAH, PEDS,  
PH, PHARM**

SYMPOSIUM 02. *Adult Congenital Heart  
Disease: Reaching the Summit*

(ATHENA)

Primary Audience: **HF/HTX**  
Secondary Audience: **PEDS**



**SYMPOSIUM 03. *Chronic Lung Allograft Dysfunction (CLAD): Where Are We Now?***

(MEDITERRANEE ABC)

Primary Audience: LF/LTX

Secondary Audience: BSTR, ID, NHSAH, PATH, PEDS, PHARM

**SYMPOSIUM 04. *Cardio-Oncology: A Tale of Two Problems***

(CLIO/THALIE/ERATO)

Primary Audience: HF/HTX

Secondary Audience: MCS, NHSAH, PEDS, PHARM

**SYMPOSIUM 05. *The Young and the Restless: Unique Challenges in Cardiothoracic Transplantation and Mechanical Support from Children to Young Adults***

(URANIE/CALIOPE)

Primary Audience: NHSAH

Secondary Audience: HF/HTX, LF/LTX, MCS, PEDS

**SYMPOSIUM 06. *Novel Tools in Transplant Research (Say You Want a Revolution...)***

(HERMES)

Primary Audience: BSTR

Secondary Audience: HF/HTX, ID, LF/LTX, PATH, PHARM

**SYMPOSIUM 07. *The Devil is in the Details – Nuances in CTEPH***

(MEDITERRANEE 6)

Primary Audience: CTEPH

Secondary Audience: LF/LTX, PH

**4:00 PM - 4:30 PM**

COFFEE BREAK

(RHODES EXHIBIT HALL)

**4:30 PM - 6:00 PM**

ORAL SESSIONS 8-14

**6:00 PM - 7:15 PM**

EXHIBIT HALL OPENING RECEPTION

(RHODES)

**6:15 PM - 7:15 PM**

MINI ORAL SESSIONS 1-6

**POSTER SESSION 1**

(MUSES NORD, EUTERPE, AGORA 2, AGORA 3, GALLIENI 1-2)

**6:15 PM - 7:15 PM**

**COUNCIL NETWORKING RECEPTIONS**

MECHANICAL CIRCULATORY SUPPORT  
(MUSES FOYER AND CORRIDOR)

NURSING, HEALTH SCIENCES  
& ALLIED HEALTH  
(GALLIENI 1-2, MYKONOS)

JUNIOR FACULTY AND TRAINEES  
(AGORA 2)

BASIC SCIENCE AND  
TRANSLATIONAL RESEARCH  
(AGORA 3)

PATHOLOGY  
(AGORA 3)

**7:15 PM - 8:00 PM**

**POSTER SESSION 1 REMOVAL**

(MUSES NORD, EUTERPE, AGORA 2, AGORA 3, GALLIENI 1-2)

# ISHLT Scientific Sessions • SCHEDULE AT A GLANCE

## Thursday, April 12, 2018

### 7:00 AM - 7:00 PM

ANNUAL MEETING REGISTRATION OPEN  
(AGORA 1)

SPEAKER READY ROOM OPEN  
(HERMES LOUNGE)

### 7:15 AM - 8:15 AM

MECHANICAL CIRCULATORY SUPPORT  
SCIENTIFIC COUNCIL MEETING  
(ATHENA)

PULMONARY TRANSPLANTATION SCIENTIFIC  
COUNCIL MEETING  
(CLIO/THALIE/ERATO)

PULMONARY HYPERTENSION SCIENTIFIC  
COUNCIL MEETING  
(URANIE/CALIOPE)

PATHOLOGY SCIENTIFIC COUNCIL MEETING  
(HERMES)

### 8:00 AM - 8:30 AM

COFFEE AND CROISSANTS  
(RHODES EXHIBIT HALL)

### 8:00 AM - 7:15 PM

EXHIBIT HALL OPEN  
(RHODES)

### 8:30 AM - 10:00 AM

POSTER SESSION 2 MOUNT  
(MUSES NORD, EUTERPE, AGORA 2,  
AGORA 3, GALLIENI 1-2)

### 8:30 AM - 10:30 AM

**SYMPOSIUM 08. *A Forgotten Organ –  
The Vascular System on Continuous Flow  
LVAD Support***  
(APOLLON)

Primary Audience: MCS  
Secondary Audience: HF/HTX

**SYMPOSIUM 09. *“The Heat Is On” – Great  
Debates in Heart Transplantation***  
(ATHENA)

Primary Audience: HF/HTX  
Secondary Audience: ID, MCS, NHSAH, PATH,  
PEDS, PHARM

**SYMPOSIUM 10. *Cardiothoracic Transplantation:  
Too Frail to Rock and Roll, Too Young to Die***  
(MEDITERRANEE ABC)

Primary Audience: HF/HTX  
Secondary Audience: EEP, LTX, NHSAH, PEDS, PHARM

**SYMPOSIUM 11. *Cystic Fibrosis in Lung  
Transplantation: Controversial Topics***  
(CLIO/THALIE/ERATO)

Primary Audience: LF/LTX  
Secondary Audience: ID, NHSAH, PEDS, PHARM

**SYMPOSIUM 12. *CTEPH: Challenges in  
Intervention Decision Making***  
(URANIE/CALIOPE)

Primary Audience: CTEPH  
Secondary Audience: LF/LTX, PH

**SYMPOSIUM 13. *A Day in the Life: The Pathologist  
as a Member of the Thoracic Transplant Team***  
(HERMES)

Primary Audience: PATH  
Secondary Audience: EEP, HF/HTX, LF/LTX, MCS,  
NHSAH, PEDS, PHARM

**SYMPOSIUM 14. *Old Cells New Tricks:  
Updates on Transplant Immunology***  
(MEDITERRANEE 6)

Primary Audience: BSTR  
Secondary Audience: HF/HTX, LF/LTX, PATH

### 9:00 AM - 7:00 PM

PRESS OFFICE OPEN  
(GALLIENI 6)

### 10:30 AM - 10:45 AM

ANNUAL BUSINESS MEETING  
(APOLLON)  
COFFEE BREAK  
(RHODES EXHIBIT HALL)

### 11:00 AM - 12:30 PM

ORAL SESSIONS 15-19

**SYMPOSIUM 15. *We Never Stop Learning:  
50th Anniversary of Heart Transplantation***  
(MEDITERRANEE ABC)

Primary Audience: HF/HTX  
Secondary Audience: BSTR, ID, NHSAH, PATH, PEDS, PHARM

**SYMPOSIUM 16. *JHLT at ISHLT: The Year in a Capsule***  
(URANIE/CALIOPE)

Primary Audience: ALL



**12:30 PM - 2:00 PM**

LUNCH BREAK

*(Lunch will not be available at the Acropolis Congress Centre)*

**JHLT EDITORIAL BOARD LUNCH**

**(GALLIENI 5)**

**12:45 PM - 1:45 PM**

**EXHIBIT HALL CLOSED**

**(RHODES)**

**2:00 PM - 4:00 PM**

**SYMPOSIUM 17. *Rapid Update on MCS***

***Complications and Management: The Unpublished***

**(APOLLON)**

*Primary Audience: MCS*

*Secondary Audience: HF/HTX, ID, NHSAH, PHARM*

**SYMPOSIUM 18. *It's Electric! Electrophysiologic Management of the LVAD Patient***

**(ATHENA)**

*Primary Audience: MCS*

*Secondary Audience: HF/HTX, NHSAH, PEDS*

**SYMPOSIUM 19. *Antibody-Mediated Rejection After Lung Transplantation – 2018***

**(MEDITERRANEE ABC)**

*Primary Audience: LF/LTX*

*Secondary Audience: BSTR, PATH, PEDS*

**SYMPOSIUM 20. *Malignancy in Transplantation: Too Much, Too Early or Too Little, Too Late?***

**(CLIO/THALIE/ERATO)**

*Primary Audience: PHARM*

*Secondary Audience: BSTR, HF/HTX, ID, LF/LTX, NHSAH, PATH, PEDS, PHARM*

**SYMPOSIUM 21. *Great Debates in the Management of PAH: Genetics, Bridge to Lung Transplant, and Goal Directed Therapy***

**(URANIE/CALIOPE)**

*Primary Audience: PH*

*Secondary Audience: HF/HTX, LF/LTX, MCS, PEDS, PHARM*

**SYMPOSIUM 22. *Cytomegalovirus (CMV) in Thoracic Organ Transplantation – A Changing Landscape***

**(HERMES)**

*Primary Audience: ID*

*Secondary Audience: BSTR, HF/HTX, LF/LTX, NHSAH, PATH, PEDS, PHARM*

**SYMPOSIUM 23. *Too Little or Too Much: Controversies in Monitoring After Pediatric Thoracic Transplantation***

**(MEDITERRANEE 6)**

*Primary Audience: PEDS*

*Secondary Audience: ID, LF/LTX*

**4:00 PM - 4:30 PM**

COFFEE BREAK

**(RHODES EXHIBIT HALL)**

**4:30 PM - 6:00 PM**

ORAL SESSIONS 20-26

**6:00 PM - 7:00 PM**

PAST PRESIDENT'S MEETING

**(GALLIENI 4)**

**6:00 PM - 7:15 PM**

WINE AND CHEESE RECEPTION

**(RHODES)**

**6:15 PM - 7:15 PM**

MINI ORAL SESSIONS 7-12

**POSTER SESSION 2**

**(MUSES NORD, EUTERPE, AGORA 2, AGORA 3, GALLIENI 1-2)**

**6:15 PM - 7:15 PM**

**COUNCIL NETWORKING RECEPTIONS**

HEART FAILURE & TRANSPLANTATION

**(MUSES CORRIDOR AND FOYER)**

INFECTIOUS DISEASES

**(GALLIENI 1-2, MYKONOS)**

PEDIATRIC THORACIC TRANSPLANTATION & HEART FAILURE

**(AGORA 3)**

**7:15 PM - 8:00 PM**

**POSTER SESSION 2 REMOVAL**

**(MUSES NORD, EUTERPE, AGORA 2, AGORA 3, GALLIENI 1-2)**

# ISHLT Scientific Sessions • SCHEDULE AT A GLANCE

## Friday, April 13, 2018

**7:00 AM - 7:00 PM**

ANNUAL MEETING REGISTRATION OPEN  
(AGORA 1)

SPEAKER READY ROOM OPEN  
(HERMES LOUNGE)

**7:15 AM - 8:15 AM**

HEART FAILURE AND TRANSPLANTATION  
SCIENTIFIC COUNCIL MEETING  
(CLIO/THALIE/ERATO)

JUNIOR FACULTY AND TRAINEE  
SCIENTIFIC COUNCIL MEETING  
(URANIE/CALIOPE)

PEDIATRIC THORACIC TRANSPLANTATION  
AND HEART FAILURE SCIENTIFIC  
COUNCIL MEETING  
(HERMES)

INFECTIOUS DISEASES SCIENTIFIC  
COUNCIL MEETING  
(GALLIENI 5)

GRANTS & AWARDS COMMITTEE  
MEETING  
(GALLIENI 7)

**8:00 AM - 6:30 PM**

EXHIBIT HALL OPEN  
(RHODES)

**8:00 AM - 8:30 AM**

COFFEE AND CROISSANTS  
(RHODES EXHIBIT HALL)

**8:30 AM - 10:00 AM**

ORAL SESSIONS 27-32

**SYMPOSIUM 24. *Retransplantation in the  
Child to Young Adult – History Repeating Itself?***  
(MEDITERRANEE 6)

Primary Audience: **PEDS**  
Secondary Audience: **EEP, HF/HTX, LF/LTX,  
MCS, NHSAH, PHARM**

**POSTER SESSION 3 MOUNT**

(MUSES NORD, EUTERPE, AGORA 2,  
AGORA 3, GALLIENI 1-2)

**9:00 AM - 7:00 PM**

PRESS OFFICE OPEN  
(GALLIENI 6)

**10:00 AM - 10:30 AM**

COFFEE BREAK  
(RHODES EXHIBIT HALL)

**10:30 AM - 12:30 PM**

**PLENARY SESSION: *Moving  
Cardiothoracic Transplantation Forward***  
(APOLLON)

Primary Audience: **ALL**

**12:30 PM - 2:00 PM**

LUNCH BREAK  
(Lunch will not be available at the  
Acropolis Congrès Centre)

**12:45 PM - 1:45 PM**

EXHIBIT HALL CLOSED  
(RHODES)

**2:00 PM - 4:00 PM**

**SYMPOSIUM 25. *Crashing and Burning:  
Cardiogenic Shock and Short-term MCS***  
(APOLLON)

Primary Audience: **MCS**  
Secondary Audience: **HF/HTX, NHSAH,  
PEDS, PHARM**

**SYMPOSIUM 26. *Can My Lung Transplant  
Candidate Take This Medication? What to Do  
with the New Drugs for Lung Failure***

(ATHENA)  
Primary Audience: **LF/LTX**  
Secondary Audience: **BSTR, ID, NHSAH,  
PEDS, PHARM**



**SYMPOSIUM 27. DCD Lungs –  
Expanding Utilization**

(MEDITERRANEE ABC)

Primary Audience: **LF/LTX**  
Secondary Audience: **NHSAH**

**SYMPOSIUM 28. First Days of a New Life:  
Management After Heart Transplant**

(CLIO/THALIE/ERATO)

Primary Audience: **HF/HTX**  
Secondary Audience: **MCS, PHARM, PH**

**SYMPOSIUM 29. Joint ISHLT/ESC Symposium:  
Pulmonary Hypertension Due to Left Heart Disease:  
When RIGHT Meets LEFT**

(URANIE/CALIOPE)

Primary Audience: **PH**  
Secondary Audience: **BSTR, HF/HTX, NHSAH,  
PATH, PEDS, PHARM**

**SYMPOSIUM 30. Joint ISHLT/TTS-TID  
Symposium: Infectious Challenges Around  
the World – Common Threads**

(HERMES)

Primary Audience: **ID**  
Secondary Audience: **ECP, HF/HTX, LF/LTX,  
NHSAH, PEDS, PHARM**

**SYMPOSIUM 31. Pediatric Heart Failure:  
MCS, ICU Care, and Early Graft Dysfunction**

(MEDITERRANEE 6)

Primary Audience: **PEDS**  
Secondary Audience: **HF/HTX, MCS**

**4:00 PM - 4:30 PM**

COFFEE BREAK  
(RHODES EXHIBIT HALL)

**4:30 PM - 6:00 PM**

ORAL SESSIONS 33-39

**6:00 PM - 6:30 PM**

WINE AND CHEESE RECEPTION  
(RHODES)

**6:15 PM - 7:15 PM**

**POSTER SESSION 3**  
(MUSES NORD, EUTERPE, AGORA 2,  
AGORA 3, GALLIENI 1-2)

MINI ORAL SESSIONS 13-16

**6:15 PM - 7:15 PM**

**COUNCIL NETWORKING  
RECEPTIONS**

PHARMACY AND PHARMACOLOGY  
(AGORA 2)

PULMONARY HYPERTENSION  
(GALLIENI 1-2, MYKONOS)

CHRONIC THROMBOEMBOLIC  
PULMONARY HYPERTENSION  
(GALLIENI 1-2, MYKONOS)

PULMONARY TRANSPLANTATION  
(EUTERPE)

**7:15 PM - 8:00 PM**

**POSTER SESSION 3 REMOVAL**  
(MUSES NORD, EUTERPE, AGORA 2,  
AGORA 3, GALLIENI 1-2)

**8:00 PM - 9:30 PM**

**PRESIDENT'S COCKTAIL RECEPTION**  
(LE NEGRESCO HOTEL)

*(Advance purchase ticket required.  
Ticket will not be sold at the meeting.)*

FRIDAY • APRIL 13 • 2018

# ISHLT Scientific Sessions • SCHEDULE AT A GLANCE

# Saturday, April 14, 2018

**7:30 AM - 2:00 PM**

ANNUAL MEETING REGISTRATION OPEN  
(AGORA 1)

SPEAKER READY ROOM OPEN  
(HERMES LOUNGE)

**8:00 AM - 8:15 AM**

MORNING COFFEE  
(HERMES FOYER, MYKONOS LOUNGE)

**8:15 AM - 9:45 AM**

ORAL SESSIONS 40-45

**9:45 AM - 10:00 AM**

COFFEE BREAK  
(HERMES FOYER, MYKONOS LOUNGE)

**10:00 AM - 12:00 PM**

PLENARY SESSION

(ATHENA)

*Primary Audience: ALL*

**12:00 PM - 12:15 PM**

COFFEE BREAK  
(HERMES FOYER, MYKONOS LOUNGE)

**12:15 PM - 1:45 PM**

ORAL SESSIONS 46-51

**1:45 PM**

ANNUAL MEETING ADJOURNS

**2:00 PM - 7:00 PM**

ISHLT BOARD OF DIRECTORS MEETING  
(GALLIENI 1-2)



# Thirty-Eighth Annual Meeting Preliminary Program



SCIENTIFIC SESSIONS · ISHLT ACADEMIES

# ISHLT Scientific Sessions

# Daily Time Table

WEDNESDAY, APRIL 11

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE				
ROOM	APOLLON	ATHENA	MEDITERRANEE ABC	CLIO, THALIE, ERATO
TIME				
7:00 AM				
8:00 AM	COFFEE + CROISSANTS in EXHIBIT HALL			
8:30	ORAL 1	ORAL 2	ORAL 3	ORAL 4
9:00 AM				
10:00 AM	COFFEE BREAK in EXHIBIT HALL			
10:30	OPENING PLENARY			
11:00 AM				
NOON	ALL			
12:30	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK
1:00 PM				
2:00 PM	<b>SYMPOSIUM 1</b> <i>RV in Advance HF and LVADs</i>	<b>SYMPOSIUM 2</b> <i>Adult Congenital Heart Disease</i>	<b>SYMPOSIUM 3</b> <i>CLAD</i>	<b>SYMPOSIUM 4</b> <i>Cardio-Oncology</i>
3:00 PM	MCS, HF/HTX, NNSAH, PEDS, PH, PHARM	HF/HTX, PEDS	LF/LTX, BSTR, ID, NNSAH, PATH, PEDS, PHARM	HF/HTX, MCS, NNSAH, PEDS, PHARM
4:00 PM	COFFEE BREAK in EXHIBIT HALL			
4:30	ORAL 8	ORAL 9	ORAL 10	ORAL 11
5:00 PM				
6:00 PM	WINE AND CHEESE IN EXHIBIT HALL			
6:15		MINI ORAL 1	MINI ORAL 2	MINI ORAL 3
7:00 PM				
7:15				
8:00 PM				
8:15				



# WEDNESDAY, APRIL 11

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE					
ROOM	URANIE,CALIOPE	HERMES	MEDITERRANEE 6	RHODES	MUSES NORD, EUTERPE, AGORA 2, AGORA 3 GALLIENI 1-2
TIME					
7:00 AM				7:00 am – 8:00 am EXHIBITOR SET-UP	7:00 am – 10:00 am POSTER MOUNT
8:00 AM	COFFEE + CROISSANTS in EXHIBIT HALL			8:00 am – 7:15 pm EXHIBIT HALL OPEN	
8:30	ORAL 5	ORAL 6	ORAL 7		
9:00 AM					
10:00 AM	COFFEE BREAK in EXHIBIT HALL				
10:30					10:00 am – 7:15 pm POSTER HALL OPEN
11:00 AM					
NOON					
12:30	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK	12:45 pm – 1:45 pm HALL CLOSED	
12:45					
1:00 PM					
1:45					
2:00 PM	<b>SYMPOSIUM 5</b> <i>HTX and MCS from Kids to Young Adults</i>	<b>SYMPOSIUM 6</b> <i>Tools in TX Research</i>	<b>SYMPOSIUM 7</b> <i>Nuances in CTEPH</i>		
3:00 PM	NNSAH, HF/HTX, LF/LTX, MCS, PEDS	BSTR, HF/HTX, ID, LF/LTX, PATH, PHARM	CTEPH, LF/LTX, PH		
4:00 PM	COFFEE BREAK in EXHIBIT HALL				
4:30	ORAL 12	ORAL 13	ORAL 14		
5:00 PM					
6:00 PM	WINE AND CHEESE IN EXHIBIT HALL			6:00 pm – 7:15 pm EXHIBIT HALL OPENING RECEPTION	6:15 pm – 7:15 pm MODERATED POSTER SESSION 1
6:15	MINI ORAL 4	MINI ORAL 5	MINI ORAL 6		
7:00 PM					7:15 pm – 8:15 pm POSTER REMOVAL
7:15					
8:00 PM					
8:15					

# ISHLT Scientific Sessions

# Daily Time Table

THURSDAY, APRIL 12

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE				
ROOM	APOLLON	ATHENA	MEDITERRANEE ABC	CLIO, THALIE, ERATO
TIME				
7:00 AM				
7:30				
8:00 AM	COFFEE + CROISSANTS in EXHIBIT HALL			
8:30	<b>SYMPOSIUM 8</b> <i>Vascular System on Cont.</i>	<b>SYMPOSIUM 9</b> <i>Debates in HTX</i>	<b>SYMPOSIUM 10</b> <i>Too Frail</i>	<b>SYMPOSIUM 11</b> <i>CF in LTX</i>
9:00 AM	MCS, HF/HTX	HF/HTX, ID, MCS, NHSAH, PATH, PEDS, PHARM	HF/HTX, EEP, LTX, NHSAH, PEDS, PHARM	LF/LTX, ID, NHSAH, PEDS, PHARM
10:00 AM	<b>ANNUAL BUSINESS MTG.</b>	COFFEE BREAK in EXHIBIT HALL		
10:30	<b>ORAL 15</b>	<b>ORAL 16</b>	<b>SYMPOSIUM 15</b> <i>50th Anniversary of HTX</i>	<b>ORAL 17</b>
11:00 AM			HF/HTX, BSTR, ID, NHSAH PATH, PEDS, PHARM	
NOON				
12:30	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK
1:00 PM				
2:00 PM	<b>SYMPOSIUM 17</b> <i>Rapid Update on MCS</i>	<b>SYMPOSIUM 18</b> <i>Electrophysiologic Mgmt of LVAD Patient</i>	<b>SYMPOSIUM 19</b> <i>AMR After LTX</i>	<b>SYMPOSIUM 20</b> <i>Malignancy in TX</i>
3:00 PM	MCS, HF/HTX, ID, NHSAH PHARM	MCS, HF/HTX, NHSAH, PEDS	LF/LTX, BSTR, PATH, PEDS	PHARM, BSTR, HF/HTX, ID, LF/LTX, NHSAH, PEDS
4:00 PM	COFFEE BREAK in EXHIBIT HALL			
4:30	<b>ORAL 20</b>	<b>ORAL 21</b>	<b>ORAL 22</b>	<b>ORAL 23</b>
5:00 PM				
6:00 PM	WINE AND CHEESE IN EXHIBIT HALL			
6:15		<b>MINI ORAL 7</b>	<b>MINI ORAL 8</b>	<b>MINI ORAL 9</b>
7:00 PM				
7:15				
8:00 PM				



# THURSDAY, APRIL 12

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE					
ROOM	URANIE,CALIOPE	HERMES	MEDITERRANEE 6	RHODES	MUSES NORD, EUTERPE, AGORA 2, AGORA 3 GALLIENI 1-2
TIME					
7:00 AM					
7:30					7:30 am – 8:30 am POSTER RENUMBER
8:00 AM	COFFEE + CROISSANTS in EXHIBIT HALL			8:00 am – 7:15 pm EXHIBIT HALL OPEN	
8:30	<b>SYMPOSIUM 12</b> <i>CTEPH: Intervention Decisions</i>	<b>SYMPOSIUM 13</b> <i>Pathologist on Thoracic TX Team</i>	<b>SYMPOSIUM 14</b> <i>Updates on TX Immunology</i>		8:30 am – 10:00 am POSTER MOUNT
9:00 AM	CTEPH, LF/LTX, PH	PATH, EEP, HF/HTX, LF/LTX, MCS, NHSAH PEDS, PHARM	BSTR, HF/HTX, LF/LTX PATH		
10:00 AM	COFFEE BREAK in EXHIBIT HALL				10:00 am – 7:00 pm POSTER HALL OPEN
10:30	<b>SYMPOSIUM 16</b> <i>JHLT at ISHLT: The Year in a Capsule</i>	<b>ORAL 18</b>	<b>ORAL 19</b>		
11:00 AM					
NOON	ALL				
12:30	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK	12:45 pm – 1:45 pm HALL CLOSED	
12:45					
1:00 PM					
1:45					
2:00 PM	<b>SYMPOSIUM 21</b> <i>Debates in Mgmt of PAH</i>	<b>SYMPOSIUM 22</b> <i>CMV in Thoracic Organ TX</i>	<b>SYMPOSIUM 23</b> <i>Controversies in Monitoring After Ped Thoracic TX</i>		
3:00 PM	PH, HF/HTX, LF/LTX, MCS, PEDS, PHARM	ID, BSTR, HF/HTX, LF/LTX, NHSAH, PATH, PEDS, PHARM	PEDS, ID, LF/LTX		
4:00 PM	COFFEE BREAK in EXHIBIT HALL				
4:30	<b>ORAL 24</b>	<b>ORAL 25</b>	<b>ORAL 26</b>		
5:00 PM					
6:00 PM	WINE AND CHEESE IN EXHIBIT HALL			6:00 pm – 7:15 pm WINE & CHEESE RECEPTION	6:00 pm – 7:00 pm MODERATED POSTER SESSION 2
6:15	<b>MINI ORAL 10</b>	<b>MINI ORAL 11</b>	<b>MINI ORAL 12</b>		
7:00 PM					7:00 pm – 8:00 pm POSTER REMOVAL
7:15					
8:00 PM					

# ISHLT Scientific Sessions

# Daily Time Table

FRIDAY, APRIL 13

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE				
ROOM	APOLLON	ATHENA	MEDITERRANEE ABC	CLIO, THALIE, ERATO
TIME				
7:00 AM				
7:30				
8:00 AM	COFFEE + CROISSANTS in EXHIBIT HALL			
8:30	ORAL 27	ORAL 28	ORAL 29	ORAL 30
9:00 AM				
10:00 AM	COFFEE BREAK in EXHIBIT HALL			
10:30	PLENARY SESSION			
11:00 AM				
NOON	ALL			
12:30	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK
1:00 PM				
2:00 PM	<b>SYMPOSIUM 25</b> <i>Cardiogenic Shock and Short-Term MCS</i>	<b>SYMPOSIUM 26</b> <i>New Drugs for Lung Failure</i>	<b>SYMPOSIUM 27</b> <i>DCD Lungs</i>	<b>SYMPOSIUM 28</b> <i>Mgmt After HTX</i>
3:00 PM	MCS, HF/HTX, NHSAH, PEDS PHARM	LF/LTX, BSTR, ID, NHSAH PEDS, PHARM	LF/LTX, NHSAH	HF/HTX, MCS, PHARM, PH
4:00 PM	COFFEE BREAK in EXHIBIT HALL			
4:30	ORAL 33	ORAL 34	ORAL 35	ORAL 36
5:00 PM				
6:00 PM	WINE AND CHEESE IN EXHIBIT HALL			
6:15		MINI ORAL 13		MINI ORAL 14
7:00 PM				
8:00 PM	8:00 pm – 9:30 pm PRESIDENT'S COCKTAIL RECEPTION LE NEGRESCO HOTEL			



# FRIDAY, APRIL 13

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE											
ROOM	URANIE,CALIOPE	HERMES	MEDITERRANEE 6	RHODES	MUSES NORD, EUTERPE, AGORA 2, AGORA 3 GALLIENI 1-2						
TIME											
7:00 AM											
7:30											
8:00 AM	COFFEE + CROISSANTS in EXHIBIT HALL			8:00 am – 6:30 pm EXHIBIT HALL OPEN	7:30 am – 8:30 am POSTER RENUMBER						
8:30	ORAL 31 <i>Philip Caves Award Candidate Presentations</i>	ORAL 32	SYMPOSIUM 24 <i>Re-TX Child to Young Adult PEDS, EEP, HF/HTX, LF/LTX, MCS, NHSAH PHARM</i>		8:30 am – 10:00 am POSTER MOUNT						
9:00 AM											
10:00 AM	COFFEE BREAK in EXHIBIT HALL				10:00 am – 7:00 pm POSTER HALL OPEN						
10:30											
11:00 AM											
NOON											
12:30	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK			12:45 pm – 1:45 pm HALL CLOSED					
12:45											
1:00 PM											
1:45											
2:00 PM	SYMPOSIUM 29 <i>ISHLT/ESC Joint Symposium: PH Due to Left Heart Disease</i>	SYMPOSIUM 30 <i>ISHLT/TTS-TID Joint Symposium: Global Infectious Challenges</i>	SYMPOSIUM 31 <i>Pediatric Heart Failure</i>								
3:00 PM				PH, BSTR, HF/HTX, NNSAH, PATH, PEDS, PHARM		ID, EEP, HF/HTX, LF/LTX, NNSAH, PEDS, PHARM	PEDS, HF/HTX, MCS				
4:00 PM	COFFEE BREAK in EXHIBIT HALL										
4:30	ORAL 37	ORAL 38	ORAL 39								
5:00 PM											
6:00 PM	WINE AND CHEESE IN EXHIBIT HALL			6:00 pm – 6:30 pm WINE & CHEESE	6:00 pm – 7:00 pm MODERATED POSTER SESSION 3						
6:15	MINI ORAL 15	MINI ORAL 16									
7:00 PM					7:00 pm – 8:00 pm POSTER REMOVAL						
8:00 PM	8:00 pm – 9:30 pm PRESIDENT'S COCKTAIL RECEPTION LE NEGRESCO HOTEL										

# Daily Time Table

SATURDAY, APRIL 14

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE				
ROOM	APOLLON	ATHENA	MEDITERRANEE ABC	CLIO, THALIE, ERATO
TIME				
7:00 AM				
8:00 AM	MORNING COFFEE in HERMES FOYER and MYKONOS LOUNGE			
8:15	ORAL 40	ORAL 41	ORAL 42	ORAL 43
8:30				
9:00 AM				
9:45	COFFEE BREAK in HERMES FOYER and MYKONOS LOUNGE			
10:00 AM	PLENARY SESSION 3  ALL			
11:00 AM				
NOON	COFFEE BREAK in HERMES FOYER and MYKONOS LOUNGE			
12:15	ORAL 46	ORAL 47	ORAL 48	ORAL 49
1:00 PM				
1:45				



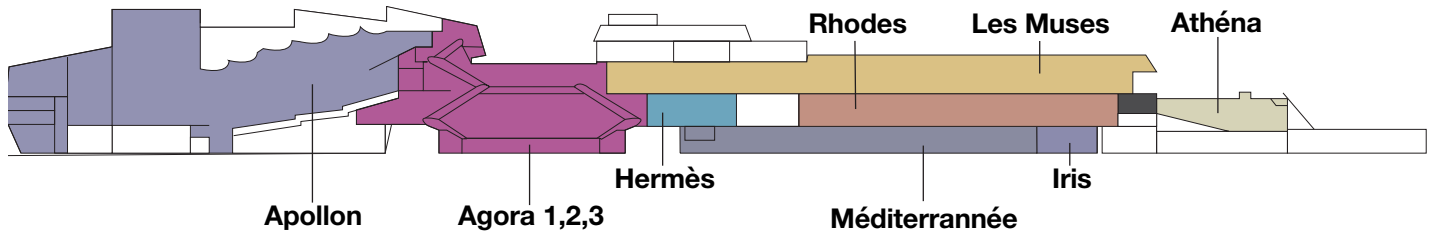
# SATURDAY, APRIL 14

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE			
ROOM	HERMES	MEDITERRANEE ABC	
TIME			
7:00 AM			
8:00 AM	MORNING COFFEE in HERMES FOYER and MYKONOS LOUNGE		
8:15	ORAL 44	ORAL 45	
8:30			
9:00 AM			
9:45	COFFEE BREAK in HERMES FOYER and MYKONOS LOUNGE		
10:00 AM			
11:00 AM			
NOON	COFFEE BREAK in HERMES FOYER and MYKONOS LOUNGE		
12:15	ORAL 50	ORAL 51	
1:00 PM			
1:45			

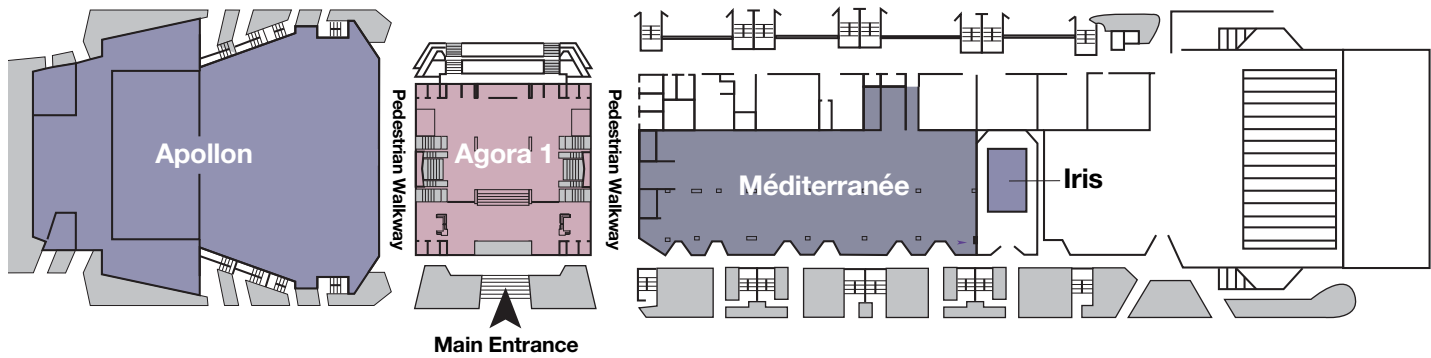
# Meeting Room Locations

THE ACROPOLIS CONGRÈS CENTRE • NICE, FRANCE

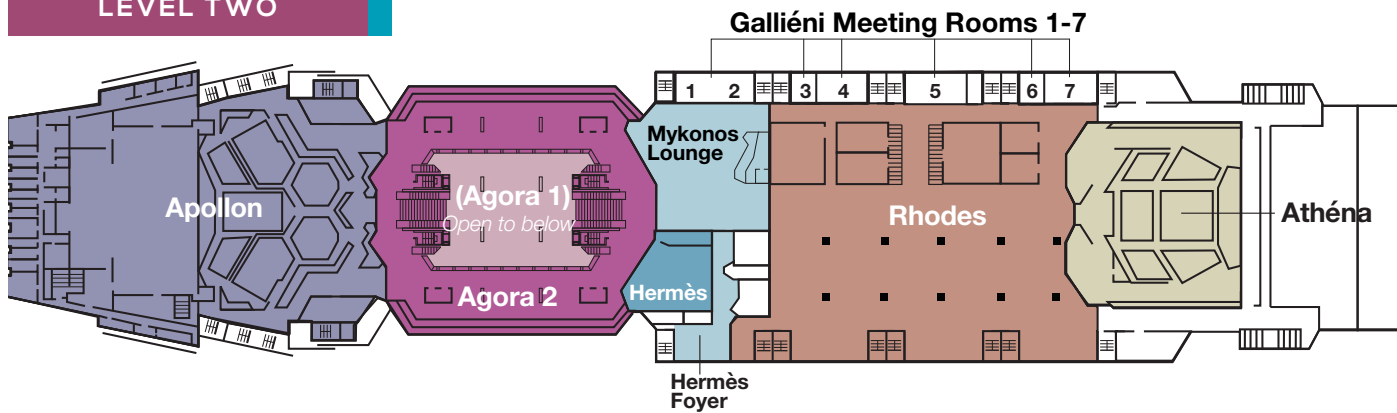
## SECTIONAL VIEW



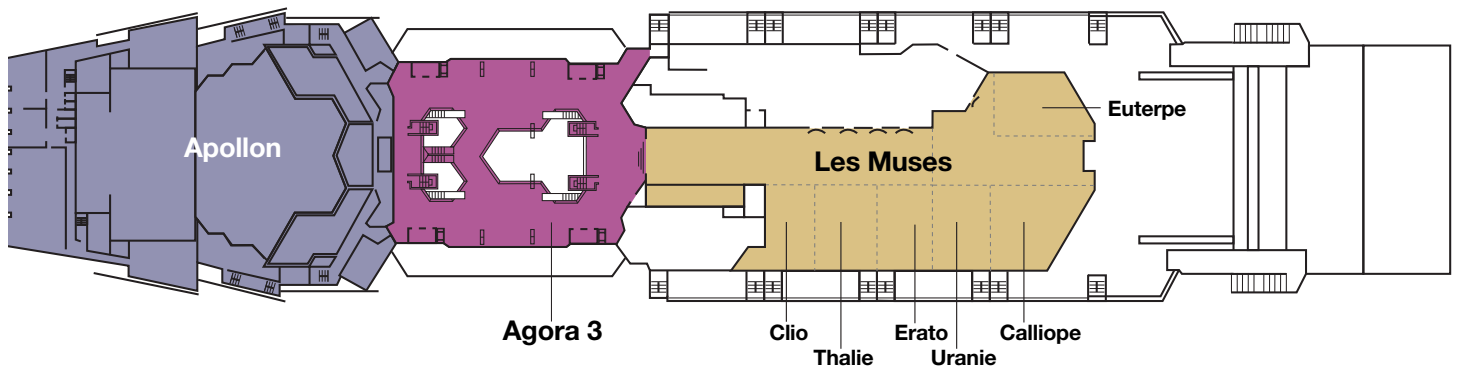
## LEVEL ONE



## LEVEL TWO



## LEVEL THREE





**INTERNATIONAL SOCIETY FOR  
HEART AND LUNG TRANSPLANTATION**



**THIRTY EIGHTH  
ANNUAL MEETING**



**PRELIMINARY  
SCIENTIFIC  
PROGRAM**



**APRIL  
11-14  
2018**

WEDNESDAY, APRIL 11, 2018

8:30 AM - 10:30 AM

ORAL SESSIONS 1-7

W

10:30 AM - 12:30 PM

OPENING PLENARY SESSION

APOLLON

*Primary Audience: ALL*

**CHAIRS:**

Christian Benden, MD, FCCP and  
Andrew J Fisher, PhD, FRCP

**10:30 AM Welcome/Program  
Chair Report**

Christian Benden, MD, FCCP, University  
Hospital Zurich, Zurich, Switzerland

**10:40 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 K. Kirklin, MD,  
University of Alabama,  
Birmingham, AL, USA

**11:05 AM JHLT Editor's Report**

Mandeep R. Mehra, MD, MBBS, FACC, FACP,  
Brigham and Women's Hospital, Boston, MA, USA

**11:15 AM Presidential Address**

Andrew J. Fisher, FRCP, Newcastle University,  
Newcastle Upon Tyne, United Kingdom

**11:30 AM Featured Abstract #1 HF/HTX**

**11:50 AM Featured Abstract #2 LTX**

**12:10 PM Lifetime Achievement Award Laudation**

Jack G. Copeland, MD, UCSD Medical Center,  
San Diego, CA, USA

**12:25 PM Lifetime Achievement Award Acceptance**

O. Howard Frazier, MD,  
Texas Heart Institute, Houston, TX, USA

ALL MEETINGS AND  
ACTIVITIES WILL TAKE  
PLACE AT THE NICE  
ACROPOLIS CONGRÈS  
CENTRE UNLESS  
OTHERWISE SPECIFIED.

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ALL PAPERS WILL BE  
PRESENTED IN ENGLISH.

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PLEASE CHECK THE  
ISHLT WEB SITE  
(WWW.ISHLT.ORG)  
FOR UPDATES.



**O. HOWARD "BUD" FRAZIER, MD**  
**THE 2018 RECIPIENT OF THE ISHLT LIFETIME ACHIEVEMENT AWARD**



Dr. Frazier is recognized by the Society for his efforts over more than 30 years as a pioneer in the treatment of severe heart failure and in the fields of heart transplantation and artificial devices used either to substitute for or assist in the pumping action of the human heart.

Throughout the 1970s and 1980s, Dr. Frazier explored experimental work toward developing an implantable left ventricular assist device (LVAD) to aid the failing heart and in 1986, he implanted the first LVAD with the Hemopump.<sup>®</sup> In 2003, he implanted the first HeartMate II,<sup>®</sup> a device that has since become the most widely used implantable LVAD in the world. In 2011, Dr. Frazier implanted the first successful continuous-flow total artificial heart using two HeartMate II<sup>®</sup> LVADs to replace a patient's failing heart. He has also performed over 1,300 heart transplants and implanted more than 1,000 left ventricular assist devices – more than any other surgeon in the world.

THE INTERNATIONAL  
SOCIETY FOR HEART AND  
LUNG TRANSPLANTATION  
looks forward to honoring  
Dr. Frazier with the Lifetime  
Achievement Award during  
the Opening Plenary Session  
on Wednesday, April 11, 2018  
from 10:30 am – 12:30 pm.

We hope to see many ISHLT  
members in attendance.

2:00 PM - 4:00 PM

**SYMPOSIUM 01:**  
APOLLON

W

**THE DEVIL WEARS PRADA – THE ROLE OF THE RV IN ADVANCED HEART FAILURE AND LVADS**

**Primary Audience:** MCS

**Secondary Audience:** HF/HTX, NNSAH, PEDS, PH, PHARM

**Session Summary:** The rise of MCS has brought a lot of attention to the usually “forgotten” RV. This close scrutiny is driven by lack of options for durable RVAD support and worse outcome associated with RV failure. As MCS technology advances and complications decline, less sick patients will be offered therapy. The following question arises: Should we shift our focus from LV-centric approach to RV-centric one, pulling surgical trigger early on, to prevent major short and long-term consequences for our patients? A panel discussion with all speakers will conclude this session.

**CHAIRS:**

Sanem Nalbantgil, MD and Francis D Pagani, MD, PhD

- 2:00 PM** ***Pathogenesis of RV Failure Due to Left Heart Disease***  
Ryan Tedford, MD, FACC, FAHA, Medical University of South Carolina, Charleston, SC, USA
- 2:12 PM** ***The Importance of Exercise Physiology in the Assessment of RV Function in Heart Failure Patients***  
Marco Guazzi, MD, University of Milano, Milano, Italy
- 2:24 PM** ***Defining Biventricular Failure: What is the Best Modality?***  
Maria G. Crespo-Leiro, MD, Hospital Univ A Coruna, La Coruna, Spain
- 2:36 PM** ***Systemic Venous Congestion From RV Failure as a Fundamental Stimulus for Dysfunction and Damage of Vital Organs***  
Paolo C. Colombo, MD, Columbia University, New York, NY, USA
- 2:48 PM** ***Non-Surgical Treatment of RV Failure Post LVAD***  
Sandra Eifert, MD, LMU University Clinic Munich, Munich, Germany
- 3:00 PM** ***CASE PRESENTATION: Unexpected RV Failure with Persistent Pulmonary Hypertension Following LVAD: What Now?***  
Steven Hsu, MD, Johns Hopkins University, Baltimore, MD, USA
- 3:05 PM** ***Drug Therapies for Pulmonary Hypertension are Needed to Target the Right Ventricle***  
Richa Agarwal, MD, W. Penn Allegheny Hospital, Pittsburgh, PA, USA
- 3:17 PM** ***Surgical Treatment of RV Failure Post LVAD***  
Francis D. Pagani, MD, PhD, University of Michigan Hospital, Ann Arbor, MI, USA
- 3:29 PM** ***Pulsatile BiVAD: Reality or Fantasy?***  
Arjang Ruhparwar, MD, PhD, University of Heidelberg, Heidelberg, Germany
- 3:41 PM** ***Panel Discussion***

2:00 PM - 4:00 PM

**SYMPOSIUM 02:**  
ATHENA

W

**ADULT CONGENITAL HEART DISEASE: REACHING THE SUMMIT**

**Primary Audience:** HF/HTX

**Secondary Audience:** PEDS

**Session Summary:** The aim of this session is to discuss assessment, management and outcome of ACHD patients from the time of referral for cardiac transplantation, as opposed to the well described time points of listing and transplant. Speakers will describe the population and address specific considerations required when managing these patients particularly those which are different from acquired heart disease. Options for those not suitable for transplant and alternatives to transplant will also be discussed.

**CHAIRS:**

Michael Burch, MD and Monica Colvin, MD

- 2:00 PM** ***Transplant Assessment of Adult Congenital Heart Disease Patients: Who, When and By Whom***  
David S. Crossland, MRCPCH, Freeman Hospital, Newcastle upon Tyne, United Kingdom
- 2:20 PM** ***Q&A***
- 2:24 PM** ***Presentation and Management of Cardiogenic Shock in the Single Ventricle***  
Joseph W. Rossano, MD, The Children’s Hospital, Philadelphia, PA, USA
- 2:44 PM** ***Q&A***
- 2:48 PM** ***Pain for How Much Gain? Non-transplant Strategies and Bridging to Candidacy in Adult Congenital Heart Disease Patients***  
Lucy S. Roche, MD, University of Toronto, Toronto, ON, Canada
- 3:08 PM** ***Q&A***
- 3:12 PM** ***The Liver, the Kidneys and Everything Else! Assessing Non-Thoracic Organs for Suitability for Heart Transplant***  
Stephan Schubert, MD, Deutsches Herzzentrum Berlin, Berlin, Germany
- 3:32 PM** ***Q&A***
- 3:36 PM** ***Planning the Plumbing: Anatomical Limitations and How to Address Them***  
Olaf Reinhartz, MD, Stanford University, Stanford, CA, USA
- 3:56 PM** ***Q&A***



**CHRONIC LUNG ALLOGRAFT DYSFUNCTION (CLAD): WHERE ARE WE NOW?****Primary Audience:** LF/LTX**Secondary Audience:** BSTR, ID, NHSAH, PATH, PEDS, PHARM

**Session Summary:** The pathogenesis of CLAD involves both alloimmune and non-alloimmune pathways. This multi-council forum will present up-to-date knowledge about the pathobiology of CLAD phenotypes including new paradigms of pathophysiology, host-pathogen interactions, the impact of lung microbiome and pulmonary infections upon innate immunity and their impact on CLAD development, diagnosis using more sensitive pulmonary function parameters, radiographic and pathological correlates, and therapeutic strategies.

**CHAIRS:**

Cynthia J Gries, MD, MSc and Are M Holm, MD, PhD

**2:00 PM** *Is It CLAD or Is It Something Else: Why Does Lung Function Decline After Transplant?*

Robin Vos, MD, PhD, University Hospital Gasthuisberg, Leuven, Belgium

**2:15 PM** Q&A**2:20 PM** *Non-Infectious Risk Factors for CLAD*

Adrian C. Lawrence, MD, MACM, University of Minnesota, Minneapolis, MN, USA

**2:35 PM** Q&A**2:40 PM** *Biomarkers for CLAD: Are Cellular and Molecular Analyses Useful for the Clinician?*

Johanna Kwakkel-van Erp, MD, PhD, University Medical Center, Utrecht, Netherlands

**2:55 PM** Q&A**3:00 PM** *The Impact of the Lung Microbiome and Pulmonary Infections Upon the Development of CLAD*

Andrew J. Fisher, FRCP, PhD, Newcastle University, Newcastle Upon Tyne, United Kingdom

**3:15 PM** Q&A**3:20 PM** *Subtypes of CLAD: Where Are We Now?*

Jamie L. Todd, MD, Duke University Medical Center, Durham, NC, USA

**3:35 PM** Q&A**3:40 PM** *Treatment Options in CLAD: A Story of Hope or Evidence?*

Jens Gottlieb, MD, Hannover Medical School, Hannover, Germany

**3:55 PM** Q&A**CARDIO-ONCOLOGY: A TALE OF TWO PROBLEMS****Primary Audience:** HF/HTX**Secondary Audience:** MCS, NHSAH, PEDS, PHARM

**Session Summary:** This session will focus on cardiac risk in cancer patients, including: (1) Risks of the newer agents (including fulminant myocarditis with checkpoint inhibitors), (2) Balancing risk of cardiac complications when treating cancer, (3) Use of temporary and durable MCS in setting of increased risk of infection and bleeding, (4) Timing of heart transplant and post-transplant outcomes in cancer, and (5) Role of heart transplant in AL (light chain) amyloid.

**CHAIRS:**

Richard Cheng, MD and Jennifer N. Gray, PharmD

**2:00 PM** *Cardio Toxicity in Cancer: The Frontier Beyond Anthracyclines*

Douglas L. Jennings, PharmD, Columbia University Medical Center, New York, NY, USA

**2:20 PM** *Treating Heart Failure in Cancer Patients: How Do We Balance Cardio Toxicity with Cancer Risk?*

Guilherme H. Oliveira, MD, University Hospitals Case Medical Center, Cleveland, OH, USA

**2:40 PM** *Medical and Mechanical Heart Failure Therapies in Cancer Therapeutics Related Cardiomyopathies*

Bhavadarini Ramu, MD, Medical University of South Carolina, Charleston, SC, USA

**3:00 PM** *Survivors of Cancer: Is This a Contraindication to Transplant?*

Rochelle Gellatly, PharmD, Alfred Hospital, Melbourne, Australia

**3:20 PM** *Advanced Therapies in AL Amyloidosis: Is This a Good Idea?*

Luciano Potena, MD, PhD, University of Bologna, Bologna, Italy

**3:40 PM** *Panel Discussion*

2:00 PM - 4:00 PM

**SYMPOSIUM 05:**  
URANIE/CALIOPE

W

## THE YOUNG AND THE RESTLESS: UNIQUE CHALLENGES IN CARDIOTHORACIC TRANSPLANTATION AND MECHANICAL SUPPORT FROM CHILDREN TO YOUNG ADULTS

**Primary Audience:** NHSAH  
**Secondary Audience:** HF/HTX, LF/LTX, MCS, PEDS

**Session Summary:** This session will address: 1) Challenges in transitioning from pediatrics to the adult setting, 2) How to manage non-adherence in youth and young adults, 3) Best practices in managing frailty, 4) Data on youth preferences regarding end of life discussions and review tips on how to best approach those conversations. The challenging issues discussed by presenters will be highlighted in a complex clinical case presentation of a young adult presenting for re-transplantation. Audience participation and panel discussion will be encouraged in the last 15 minutes of the symposium.

### CHAIRS:

Liz Painter, MA, MSc and Quincy Young, PhD, RPsych

- 2:00 PM** *It's So Hard to Say Goodbye: Transitioning from the Pediatric to the Adult Setting*  
Jo Wray, PhD, Great Ormond Street Hospital, London, United Kingdom
- 2:15 PM** *Prehabbing and Rehabbing: What Can We Do for the Frail Patient at Any Age?*  
Louise M. Fuller, PT, Alfred Hospital, Melbourne, Australia
- 2:30 PM** *You are Not the Boss of Me! Managing Non-Adherence in Adolescents and Young Adults in Cardiothoracic Transplantation and Mechanical Support*  
Samantha J. Anthony, PhD, MSW, Hospital for Sick Children, Toronto, ON, Canada
- 2:45 PM** *Dying to Talk about Death? Adolescent and Young Adult Preferences for Advance Care Planning and End of Life Discussions*  
Melissa Cousino, PhD, CS Mott Children's Hospital, Ann Arbor, MI, USA
- 3:00 PM** *Communication Tools for Goals of Care Conversations*  
Elizabeth Blume, MD, Boston Children's Hospital, Boston, MA, USA
- 3:15 PM** *Education and Employment After Cardiothoracic Transplantation or Mechanical Support*  
Michael Petty, PhD, RN, CNS, University of Minnesota, Minneapolis, MN, USA
- 3:30 PM** *So, Should We Do This Again? Re-Transplantation of the Medically and Psychosocially Complex Young Adult*  
Mustafa Toma, MD, University of British Columbia, Vancouver, BC, Canada
- 3:45 PM** *Panel Discussion*

2:00 PM - 4:00 PM

**SYMPOSIUM 06:**  
HERMES

W

## NOVEL TOOLS IN TRANSPLANT RESEARCH (SAY YOU WANT A REVOLUTION...)

**Primary Audience:** BSTR  
**Secondary Audience:** HF/HTX, ID, LF/LTX, PATH, PHARM

**Session Summary:** New tools and techniques in clinical immunology are redefining what is possible. We will explore some of the cutting-edge research tools that are fueling research into heart and lung transplantation, including advanced microscopy, cytometry, immune monitoring, RNA sequencing, proteomics, microbiome profiling, and genome-wide association studies. Exciting possibilities will be tempered with practical considerations on how to use these techniques to advance your research career.

### CHAIRS:

Sonja Schrepfer, MD, PhD and  
Christopher H Wigfield, MD

- 2:00 PM** *If Tissue is the Issue...*  
Daniel Kreisel, MD, PhD, Washington University School of Medicine, St. Louis, MO, USA
- 2:15 PM** *Q&A*
- 2:20 PM** *Scrutinizing the Immune System*  
Marilia Cascalho, MD, PhD, University of Michigan, Ann Arbor, MI, USA
- 2:35 PM** *Q&A*
- 2:40 PM** *What's in the DNA?*  
Bart Vanaudenaerde, MD, Katholieke Universiteit Leuven, Leuven, Belgium
- 2:55 PM** *Q&A*
- 3:00 PM** *Should We Act Based on the DNA?*  
Nancy Reinsmoen, PhD, Cedars-Sinai Health System, Los Angeles, CA, USA
- 3:15 PM** *Q&A*
- 3:20 PM** *Epigenetics, MicroRNA, Transcriptome*  
Thalachallour Mohanakumar, PhD, St. Joseph's Hospital and MC, Phoenix, AZ, USA
- 3:35 PM** *Q&A*
- 3:40 PM** *Microbiome and Virome*  
Daniel Chambers, MBBS, MRCP, FRACP, MD, The Prince Charles Hospital, Brisbane, Australia
- 3:55 PM** *Q&A*



2:00 PM – 4:00 PM

**SYMPOSIUM 07:**  
MEDITERRANEE 6

W

## THE DEVIL IS IN THE DETAILS – NUANCES IN CTEPH

**Primary Audience:** CTEPH **Secondary Audience:** LF/LTX, PH

**Session Summary:** Chronic Thromboembolic Pulmonary Hypertension (CTEPH) is one of the commonest subsets of PH, and potentially curable. It is of utmost importance to familiarize the audience with key characteristics of the condition, including risk factors and details of diagnostic imaging. With a rising number of providers focusing on managing patients with CTEPH, patient selection and appropriateness of diagnosis remains key in predicting clinical outcomes post interventions.

**CHAIRS:** Marc De Perrot, MD and Irene Lang, MD

**2:00 PM** *Acute Pulmonary Embolism to CTEPH – Understanding the Pathway*

Frederikus A. Klok, MD, Leiden University Medical Center, Leiden, Netherlands

**2:15 PM** Q&A

**2:20 PM** *Diagnostic Imaging to Adequately Assess Thrombus Burden in CTEPH*

Nicholas Screatton, MD, Papworth Hospital, London, United Kingdom

**2:35 PM** Q&A

**2:40 PM** *CTEPH Outcomes – Insights from Registries*

Kim Kerr, MD, UCSD Medical Center, San Diego, CA, USA

**2:55 PM** Q&A

**3:00 PM** *Medical Management in CTEPH*

Manreet V. Kanwar, MD, Allegheny General Hospital, Pittsburgh, PA, USA

**3:15 PM** Q&A

**3:20 PM** *Evolving Approach to Pulmonary Endarterectomy: Unraveling the Distal Vessels*

Andrea M. D'Armini, MD, Foundation IRCCS Policlinico San Matteo, Pavia, Italy

**3:35 PM** Q&A

**3:40 PM** *CTEPH – The Great Mimic*

Gustavo Heresi, MD, Cleveland Clinic Foundation, Cleveland, OH, USA

**3:55 PM** Q&A

4:30 PM – 6:00 PM

ORAL SESSIONS 8-14

6:15 PM – 7:15 PM

MINI ORAL SESSIONS 1-6 & POSTER SESSION 1

THURSDAY, APRIL 12, 2018

8:30 AM – 10:30 AM

**SYMPOSIUM 08:**  
APOLLON

Th

## A FORGOTTEN ORGAN – THE VASCULAR SYSTEM ON CONTINUOUS FLOW LVAD SUPPORT

**Primary Audience:** MCS **Secondary Audience:** HF/HTX

**Session Summary:** The purpose of this symposium is to review the impact of Continuous Flow (CF) LVAD physiology on the vascular system. The symposium will start with a primer on vascular physiology. It will follow with sessions on new data regarding larger artery stiffness and cerebral autoregulation during CF LVAD. The fourth session will offer a fresh perspective on bleeding with a focus on AVM development. The last session will explore changes in the peripheral vasculature and endothelial dysfunction during CF LVAD.

**CHAIRS:** James Antaki, PhD and Anna L Meyer, MD

**8:30 AM** *The ABCs of Low Pulsatile Flow – A Primer on Vascular Physiology*

Karen May-Newman, PhD, San Diego State University, San Diego, CA, USA

**8:42 AM** Q&A

**8:47 AM** *Is Aortic Stiffness the Missing Link Between Large Vessel Vascular Disease and Continuous Flow LVAD Support?*

Amrut V. Ambardekar, M.D, University of Colorado, Aurora, CO, USA

**8:59 AM** Q&A

**9:04 AM** *Carotid Mechanoreceptors, Sympathetic Neural Activity and Cerebral Autoregulation*

David W. Markham, MD, Emory St. Joseph Hospital, Atlanta, GA, USA

**9:16 AM** Q&A

**9:21 AM** *Differential Effects of Pulsatile vs Non-Pulsatile Flow on the Renal Vasculature*

Meredith A. Brisco-Bacik, MD, MSCE, FACC, Temple University, Philadelphia, PA, USA

**9:33 AM** Q&A

**9:38 AM** *Maladaptation of the Peripheral Vasculature During Continuous Flow LVAD – Restoration of Cardiac Output Does Not Equal Normal Exercise Capacity*

Finn Gustafsson, MD, Rigshospitalet, Copenhagen, Denmark

**9:50 AM** Q&A

**9:55 AM** *An Acquired Vasculopathy – A New Paradigm in Continuous Flow LVAD Related Arteriovenous Malformation Bleeding*

Snehal R. Patel, MD, Montefiore Medical Center, Bronx, NY, USA

**10:07 AM** Q&A

**10:12 AM** *Mechanisms of Angiogenesis During Continuous Flow LVAD Support*

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

**10:24 AM** Q&A



8:30 AM - 10:30 AM

**SYMPOSIUM 09:**  
ATHENA

Th

## “THE HEAT IS ON” – GREAT DEBATES IN HEART TRANSPLANTATION

**Primary Audience:** HF/HTX

**Secondary Audience:** ID, MCS, NNSAH, PATH, PEDI, PHARM

**Session Summary:** This session will provide a forum for debate and discussion on controversial questions in heart transplantation, including selection of donors and management of allosensitized patients. Each debate will start with 5-minute case presented by a junior faculty member. The chairs will then poll the audience with a simple yes, no, or maybe question with a show of hands. This will be followed by 15 minutes PRO and 15 minutes CON debate by senior faculty members. The Chairs will subsequently poll the audience again, and declare the winner. A panel discussion with all speakers will conclude this session.

### CHAIRS:

Jon A Kobashigawa, MD and Teresa De Marco, MD

**8:30 AM CASE PRESENTATION: A Young Donor with Brain Injury and Low Ejection Fraction**

Rebecca Cogswell, MD, University of Minnesota, Minneapolis, MN, USA

**8:35 AM QUICK AUDIENCE POLL led by session co-chairs**

**8:36 AM DEBATE (Pro): “Come As You Are” – Low Ejection Fraction Donors Should Be Used for Heart Transplantation**

Ulrich Jorde, MD, Montefiore Medical Center / Albert Einstein College of Medicine, Bronx, NY, USA

**8:51 AM DEBATE (Con): “Come As You Are” – Low Ejection Fraction Donors Should Be Used for Heart Transplantation**

Hermann Reichensperner, MD, PhD, University Heart Centre Hamburg, Hamburg, Germany

**9:06 AM FOLLOW-UP AUDIENCE POLL led by session co-chairs**

**9:10 AM CASE PRESENTATION: A Young Hep C Positive Donor**

Karen L. Booth, MBChB, Freeman Hospital, Newcastle Upon Tyne, United Kingdom

**9:15 AM QUICK AUDIENCE POLL led by session co-chairs**

**9:16 AM DEBATE (Pro): “You Can’t Always Get What You Want” – Hep C Donors Should Be Used in Heart Transplantation**

JoAnn Lindenfeld, MD, Vanderbilt University, Nashville, TN, USA

**9:31 AM DEBATE (Con): “You Can’t Always Get What You Want” – Hep C Donors Should Be Used in Heart Transplantation**

Michael G. Ison, MD, MS, Northwestern University Feinberg School of Medicine, Chicago, IL, USA

**9:46 AM FOLLOW-UP AUDIENCE POLL led by session co-chairs**

**9:50 AM CASE PRESENTATION: A Diabetic, Allosensitized Patient on LVAD Awaiting Heart and Kidney Transplantation**

Van N. Selby, MD, UCSF Medical Center, San Francisco, CA, USA

**9:55 AM QUICK AUDIENCE POLL led by session co-chairs**

**9:56 AM DEBATE (Pro): “Living on a Prayer” – Highly Allosensitized Patients on LVAD as Bridge to Transplantation Should Undergo Desensitization**

Jignesh K. Patel, MD, PhD, Cedars Sinai Heart Institute, Los Angeles, CA, USA

**10:11 AM DEBATE (Con): “Living on a Prayer” – Highly Allosensitized Patients on LVAD as Bridge to Transplantation Should Undergo Desensitization**

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

**10:26 AM FOLLOW-UP AUDIENCE POLL led by session co-chairs**



**CARDIOTHORACIC TRANSPLANTATION:  
TOO FRAIL TO ROCK AND ROLL, TOO  
YOUNG TO DIE**

**Primary Audience:** HF/HTX  
**Secondary Audience:** EEP, LTX, NNSAH, PEDS, PHARM

**Session Summary:** Selection criteria for advanced heart and lung failure therapies have continued to evolve. Most centers have strict age limits. Despite this, there are more than 2000 heart and lung transplants in adults = 70 years of age. As the population ages, criteria for transplant may need to be reconsidered. This symposium serves to more closely examine the older population and considerations for advanced therapies including immunologic considerations, frailty, multiorgan dysfunction, ethical considerations.

**CHAIRS:**

Maria G Crespo-Leiro, MD and Margaret Fregoso, NP

- 8:30 AM** **Definition of Frailty and Adapting Frailty Measures for Solid Organ Transplant**  
Geetha Bhat, MD, Advocate Christ Medical Center, Oak Lawn, IL, USA
- 8:45 AM** **Pathophysiology and Risk Factors of Frailty**  
Peter MacDonald, MD, PhD, St. Vincent's Hospital, Sydney, Australia
- 9:00 AM** **Reversing Frailty**  
Savitri Fedson, MD, Baylor College of Medicine, Houston, TX, USA
- 9:15 AM** **Pharmacology in the Frail Patient**  
Steven P. Ivulich, BPharm, Alfred Hospital, Melbourne, Australia
- 9:30 AM** **The Right Stuff: Shared Decision Making in End-Stage Illness**  
Rachel Crackett, MSc, Freeman Hospital, Newcastle Upon Tyne, United Kingdom
- 9:45 AM** **Multidisciplinary Considerations for the Frail Candidate and Recipient: Cognition and Mood**  
Rose DeRosa, PA-C, Hospital of the University of Pennsylvania, Philadelphia, PA, USA
- 10:00 AM** **Panel Discussion**

**CYSTIC FIBROSIS IN LUNG TRANSPLANTATION:  
CONTROVERSIAL TOPICS**

**Primary Audience:** LF/LTX  
**Secondary Audience:** ID, NNSAH, PEDS, PHARM

**Session Summary:** This session will discuss important issues surrounding the care of cystic fibrosis patients before and after lung transplantation such as 1) Nutritional optimization strategies, colon cancer screening and indication for liver-lung transplantation; 2) CF transplantation outcome, timing for transplantation referral and re-listing; 3) Surgical and perioperative issues specific to CF; 4) Management of important infectious pathogens; and 5) Strategies to improve efficacy/minimize toxicity of antimicrobial drugs.

**CHAIRS:**

Cecilia Chaparro, MD and Monique Malouf, FRACP

- 8:30 AM** **When Is It Time for Transplant in Cystic Fibrosis?**  
Jasvir S. Parmar, PhD, FRCP, Papworth Hospital, Cambridge, United Kingdom
- 8:45 AM** **Q&A**
- 8:50 AM** **Keep Calm and Call the Surgeon: Surgical Perspective of Lung Transplant in Cystic Fibrosis**  
Shaf Keshavjee, MD, FRCSC, Toronto General Hospital, Toronto, ON, Canada
- 9:05 AM** **Q&A**
- 9:10 AM** **The Cystic Fibrosis Gut**  
Denis Hadjiliadis, MD, University of Pennsylvania, Philadelphia, PA, USA
- 9:25 AM** **Q&A**
- 9:30 AM** **What Comes Around Stays Around: Dealing with Pre- and Post-Transplant Aspergillus**  
Me-Linh Luong, MD, St. Luc Hospital, Montreal, QC, Canada
- 9:45 AM** **Q&A**
- 9:50 AM** **Optimizing Antimicrobials in Cystic Fibrosis: What's Too Little, What's Too Much**  
Patricia Ging, PharmD, Mater Misericordiae University Hospital, Dublin, Ireland
- 10:05 AM** **Q&A**
- 10:10 AM** **Lung Transplantation in Cystic Fibrosis Patients: Who Should Not Be Transplanted?**  
Walter Weder, MD, University Hospital Zurich, Zurich, Switzerland
- 10:25 AM** **Q&A**

**CTEPH: CHALLENGES IN INTERVENTION  
DECISION MAKING****Primary Audience:** CTEPH **Secondary Audience:** LF/LTX, PH

**Session Summary:** This symposium will focus on the key challenges in decision making that physicians face in managing a rising number of patients with Chronic Thromboembolic Pulmonary Hypertension (CTEPH) – especially those with ‘early’ disease and those with severe, distal disease. Presented in a debate format, this symposium highlights the advantages and disadvantages of each approach in a case based discussion.

**CHAIRS:** Elie Fadel, MD and William Auger, MD

- 8:30 AM CASE PRESENTATION: A Male Patient with Distal CTEPH**  
Mark Toshner, MD, Papworth Hospital, Cambridge, United Kingdom
- 8:35 AM DEBATE (Pro): Distal Vessel CTEPH: “The Scalpel is Mightier than the Balloon”**  
Michael M. Madani, MD, UCSD Medical Center, San Diego, CA, USA
- 8:50 AM DEBATE (Con): Distal Vessel CTEPH: “The Scalpel is Mightier than the Balloon”**  
Irene Lang, MD, Medical University of Vienna, Vienna, Austria
- 9:05 AM Debate Rebuttal (Pro)**  
Michael Madani
- 9:10 AM Debate Rebuttal (Con)**  
Irene Lang
- 9:15 AM CASE PRESENTATION: Female Patient with Chronic Thromboembolic Disease (CTED)**  
Mithun Chakravarthy, MD, Allegheny General Hospital, Pittsburgh, PA, USA
- 9:20 AM DEBATE (Pro): Early Intervention in CTED: A Stitch in Time Saves Nine**  
Isabelle Opitz, MD, University Hospital Zurich, Zurich, Switzerland
- 9:35 AM DEBATE (Con): Early Intervention in CTED: A Stitch in Time Saves Nine**  
Joanna Pepke-Zaba, MD, Papworth Hospital, Cambridge, United Kingdom
- 9:50 AM Debate Rebuttal (Pro)**  
Isabelle Opitz
- 9:55 AM Debate Rebuttal (Con)**  
Joanna Pepke-Zaba
- 10:00 AM Balloon Pulmonary Angioplasty: Is It Complementary or an Alternative to Pulmonary Thrombo-Endarterectomy?**  
Olaf Mercier, MD, Centre Chirurgical Marie Lannelongue, Fontenay aux roses, France
- 10:15 AM Should Balloon Pulmonary Angioplasty be Combined with Pulmonary Thrombo-Endarterectomy?**  
Aiko Ogawa, MD, Okayama Medical Center, Okayama, Japan

**A DAY IN THE LIFE: THE PATHOLOGIST AS A  
MEMBER OF THE THORACIC TRANSPLANT TEAM****Primary Audience:** PATH  
**Secondary Audience:** EEP, HF/HTX, LF/LTX, MCS, NHSAH, PEDS, PHARM

**Session Summary:** The pathologist plays an important clinical role in the care of a thoracic transplant patient. The session will follow two patients (one heart and one lung) through the stages of pre-transplant diagnosis, the transplant itself, post-transplant follow-up and ultimately re-transplantation or death. The role of the pathologist in his/her clinical and scientific role will be emphasized at each stage of the process.

**CHAIRS:**Martin J Goddard, FRCS, MRCPa and  
Charles C Marboe, MD

- 8:30 AM Evaluating the Native Heart and Mechanical Support Device (MCS): What's Gone Wrong?**  
Robert Padera, MD, PhD, Brigham and Women's Hospital, Boston, MA, USA
- 8:42 AM Q&A**
- 8:47 AM Call the Pathologist: The Diagnostic Dilemma in the Failing Cardiac Allograft**  
Katharina Wassilew, MD, University of Copenhagen, Copenhagen, Denmark
- 8:59 AM Q&A**
- 9:04 AM Cardiologist's Perspective**  
Mazen Hanna, MD, Cleveland Clinic, Cleveland, OH, USA
- 9:16 AM Q&A**
- 9:21 AM Evaluating the Explanted Lungs: The Unexpected Diagnosis**  
Doris Rassi, MD, Papworth Hospital, Cambridge, United Kingdom
- 9:33 AM Q&A**
- 9:38 AM Call the Pathologist: The Diagnostic Dilemma in the Failing Lung Allograft**  
Fiorella Calabrese, MD, University of Padua, Padua, Italy
- 9:50 AM Q&A**
- 9:55 AM Pulmonologist's Perspective**  
Are Martin Holm, MD, PhD, Oslo University Hospital, Oslo, Norway
- 10:07 AM Q&A**
- 10:12 AM Closing the Loop: What the Post-Mortem Offers the Clinician and the Family**  
Gregory Fishbein, MD, UCLA Medical Center, Los Angeles, CA, USA
- 10:24 AM Q&A**



## 8:30 AM - 10:30 AM

### SYMPOSIUM 14: MEDITERRANEE 6

Th

#### OLD CELLS NEW TRICKS: UPDATES ON TRANSPLANT IMMUNOLOGY

**Primary Audience:** BSTR

**Secondary Audience:** HF/HTX, LF/LTX, PATH

**Session Summary:** Graft-specific responses involve a coordinated effort between multiple immune cell types. Exciting advances in transplant immunology are providing insights into these complex interactions that will affect both present and future care for heart and lung allograft recipients. This session will highlight cutting edge transplant immunology research into T, B, and NK lymphocytes and neutrophils, and describe how available therapies affect the cells.

#### CHAIRS:

Stijn Verleden, PhD and Tereza Martinu, MD

- 8:30 AM** **Immunosuppression Strategies and Innate Immunity**  
Daniel R. Goldstein, MD, University of Michigan, Ann Arbor, MI, USA
- 8:45 AM** **Q&A**
- 8:50 AM** **Coming Soon to an Allograft Near You: Regulatory T Cell Immunotherapy**  
Gregor Warnecke, PhD, Hannover Medical School, Hannover, Germany
- 9:05 AM** **Q&A**
- 9:10 AM** **Natural Killer (NK) Cells: Friend or Foe?**  
John R. Greenland, MD, PhD, UCSF Medical Center, San Francisco, CA, USA
- 9:25 AM** **Q&A**
- 9:30 AM** **Macrophages and Dendritic Cells: Inside the Control Center**  
Carla C. Baan, PhD, Erasmus Medical Center, Rotterdam, Netherlands
- 9:45 AM** **Q&A**
- 9:50 AM** **Targeting Rejection by Targeting B Cells**  
Lori J. West, MD, DPhil, University of Alberta, Edmonton, AB, Canada
- 10:05 AM** **Q&A**
- 10:10 AM** **Alloimmunity: And Don't Forget the Neutrophils!**  
Andrew Gelman, PhD, Washington University, St. Louis, MO, USA
- 10:25 AM** **Q&A**

## 11:00 AM - 12:30 PM

### SYMPOSIUM 15: MEDITERRANEE ABC

Th

#### WE NEVER STOP LEARNING: 50TH ANNIVERSARY OF HEART TRANSPLANTATION

**Primary Audience:** HF/HTX

**Secondary Audience:** BSTR, ID, NHSAH, PATH, PEDS, PHARM

**Session Summary:** Heart transplantation has evolved from a highly specialized procedure performed at only a handful of centers to a routine treatment option for end-stage heart failure. This session will highlight the historical milestones in surgical techniques, immunosuppression, pathology interpretation and recipient management that have helped to define the field over the past 50 years.

#### CHAIRS:

Maryl R Johnson, MD and Bruno Reichart, MD

- 11:00 AM** **Second Chances: How I Spent the Past 38 Years with My New Heart**  
Brent Evje, Fairdale, ND, USA
- 11:15 AM** **Replacing the Heart: The Early Days of Heart Transplantation**  
Sir Terence English, KBE, FRCS, Oxford, United Kingdom
- 11:30 AM** **Heart-to-Heart: Patient Selection for Heart Transplantation**  
Marco Masetti, MD, Malpighi University Hospital, Bologna, Italy
- 11:45 AM** **Protect My Heart: The Evolution of Immunosuppression**  
Robert L. Page, PharmD, MSPH, University of Colorado, Denver, CO, USA
- 12:00 PM** **A Piece of My Heart: Developing and Refining Pathologic Grading of Rejection**  
Elizabeth H. Hammond, MD, Intermountain Healthcare/University of Utah, Salt Lake City, UT, USA
- 12:15 PM** **Our Community: The Role of ISHLT in Advancing Heart Transplant Knowledge**  
Sharon A. Hunt, MD, Stanford University, Stanford, CA, USA

## 11:00 AM - 12:30 PM

### ORAL SESSIONS 15-19

## 11:00 AM - 12:30 PM

### SYMPOSIUM 16: URANIE/CALIOPE

Th

#### JHLT AT ISHLT: THE YEAR IN A CAPSULE

**Primary Audience:** ALL

**Session Summary:** This session will highlight the most exciting publications in JHLT over the past year, each paper followed by a discussion by one of the senior editorial consultants of the journal to relate the presented articles to the greater body of published literature and discuss how they advance our understanding in the field. Due to time limits the presented papers for each talk will STRICTLY be limited to FOUR selected papers.

#### CHAIRS:

Evan P Kransdorf, MD, PhD and  
Fabienne Dobbels, MSc, PhD

- 11:00 AM** *JHLT Best Papers of the Year*  
Patricia A. Uber, PharmD, Virginia Commonwealth University, Richmond, VA, USA
- 11:10 AM** *Highlights of Heart Transplantation and Mechanical Circulatory Support*  
Jorge Silva Enciso, MD, UCSD Medical Center, San Diego, CA, USA
- 11:25 AM** *Expert Senior Discussant in Heart Transplantation and MCS*  
Jeffrey J. Teuteberg, MD, Stanford University School of Medicine, Stanford, CA, USA
- 11:30 AM** *Highlights of Lung Transplantation*  
Gustavo Parrilla, MD, Hospital University Fundación Favaloro, Favaloro, Argentina
- 11:45 AM** *Expert Senior Discussant in Lung Transplantation*  
Tereza Martinu, MD, Toronto General Hospital, Toronto, Canada
- 11:50 AM** *Highlights of Pediatric Heart and Lung Transplantation*  
Claire Irving, MD, Children's Hospital Westmead, Westmead, Australia
- 12:05 PM** *Expert Senior Discussant in Pediatric Heart and Lung Transplantation*  
Richard Kirk, FRCP, FRCPC, UT Southwestern Medical Center, Dallas, TX, USA
- 12:10 PM** *Highlights of Pulmonary Hypertension*  
Mitesh V. Thakrar, MD, University of Calgary, Calgary, AB, Canada
- 12:25 PM** *Expert Senior Discussant in Pulmonary Hypertension*  
Jean-Luc Vachiery, MD, Erasme University Hospital, Brussels, Belgium

## 2:00 PM - 4:00 PM

### SYMPOSIUM 17: APOLLON

Th

#### RAPID UPDATE ON MCS COMPLICATIONS AND MANAGEMENT: THE UNPUBLISHED

**Primary Audience:** MCS

**Secondary Audience:** HF/HTX, ID, NHSAH, PHARM

**Session Summary:** Mechanical Circulatory Support management is constantly evolving. While serious adverse events such as bleeding, thrombosis, stroke and RV failure are now recognized, comprehensive prevention and treatment strategies have either not been developed or are in constant flux.

**CHAIRS:** Bastian Schmack, MD and Aly El Banayosy, MD

- 2:00 PM** *Anticoagulation Approaches in MCS – New Developments?*  
Andre Vincentelli, MD, PhD, CHU de Lille, Lille, France
- 2:10 PM** Q&A
- 2:15 PM** *Hemolysis in Continuous Flow LVAD Patients: When Is It Clinically Relevant?*  
Omar Saeed, MD, Montefiore Medical Center, Bronx, NY, USA
- 2:25 PM** Q&A
- 2:30 PM** *Pathophysiology and Management of Stroke in Continuous Flow LVAD Patients*  
Joshua Z. Willey, MD, MAS, Columbia University, New York, NY, USA
- 2:40 PM** Q&A
- 2:45 PM** *How to Assess Aortic Insufficiency and Its Clinical Relevance During Continuous Flow LVAD Support? Implications for Management*  
Jennifer A. Cowger, MD, MS, St. Vincent Heart Center, Indianapolis, IN, USA
- 2:55 PM** Q&A
- 3:00 PM** *Dealing with the Bugs – Chronic LVAD Infections During Destination Therapy Support*  
Saima Aslam, MD, MS, USCD Medical Center, San Diego, CA, USA
- 3:10 PM** Q&A
- 3:15 PM** *Device Optimization – Invasive or Noninvasive*  
Susan Joseph, MD, Baylor University Medical Center, Dallas, TX, USA
- 3:25 PM** Q&A
- 3:30 PM** *Pulmonary Artery Sensors and LVAD: First Step to a SmartPump*  
Nir Uriel, MD, University of Chicago, Chicago, IL, USA
- 3:40 PM** Q&A
- 3:45 PM** *Ancillary Procedures During LVAD Placement Prevent Long-Term Complications: Myth or Reality?*  
Evgenij V. Potapov, MD, PhD, Berlin Heart Center, Berlin, Germany
- 3:55 PM** Q&A

2:00 PM – 4:00 PM

**SYMPOSIUM 18:**  
ATHENA

Th

## IT'S ELECTRIC! ELECTROPHYSIOLOGIC MANAGEMENT OF THE LVAD PATIENT

**Primary Audience:** MCS

**Secondary Audience:** HF/HTX, NHSAH, PEDS

**Session Summary:** As the population of LVAD patients grows (largely due to increased use of destination therapy devices), the management of the accompanying electrophysiologic complications and devices becomes increasingly important. In this session, the discussants will tackle topics including the prevention and treatment of ventricular tachy-arrhythmias, the implications and treatment of atrial fibrillation, and a pro/con debate regarding the utility of cardiac resynchronization therapy (CRT) in VAD patients.

### CHAIRS:

Jan Schmitto, MD, PhD and Brian Houston, MD

**2:00 PM** **An Ounce of Prevention: Intra-Operative Approach to Ventricular Tachycardia in LVAD**  
James D. Bergin, MD, University of Virginia Health Science Center, Charlottesville, VA, USA

**2:15 PM** **Q&A**

**2:20 PM** **Approach to Ventricular Tachycardia in LVAD Patients – A Pound of Cure: Invasive Management of Ventricular Tachycardia After VAD Implantation**  
Joshua Moss, MD, UCSF Medical Center, San Francisco, CA, USA

**2:35 PM** **Q&A**

**2:40 PM** **Atrial Fibrillation in the LVAD Patient: Pest or Problem?**  
Kavitha Muthiah, MBChB, PhD, St. Vincent's Hospital, Sydney, Australia

**2:55 PM** **Q&A**

**3:00 PM** **The Shocking Truth: Utility Of and Programming For the Implantable Cardioverter Defibrillator After LVAD**  
Simon Pecha, MD, University Hospital Hamburg, Hamburg, Germany

**3:15 PM** **Q&A**

**3:20 PM** **DEBATE (Pro): Cardiac Resynchronization Therapy is Beneficial in LVAD Patients**  
Melana Yuzefpolskaya, MD, Columbia University, New York, NY, USA

**3:35 PM** **DEBATE (Con): Cardiac Resynchronization Therapy is Beneficial in LVAD Patients**  
Emma Birks, MD, PhD, University of Louisville, Louisville, KY, USA

**3:50 PM** **Debate Rebuttal (Pro)**  
Melana Yuzefpolskaya

**3:55 PM** **Debate Rebuttal (Con)**  
Emma Birks

2:00 PM – 4:00 PM

**SYMPOSIUM 19:**  
MEDITERRANEE ABC

Th

## ANTIBODY-MEDIATED REJECTION AFTER LUNG TRANSPLANTATION – 2018

**Primary Audience:** LF/LTX

**Secondary Audience:** BSTR, PATH, PEDS

**Session Summary:** AMR after lung transplantation is an increasingly recognized form of rejection that often results in allograft failure. Since the Society developed a standardized definition in 2016, the community has had increasing experience in AMR, however numerous questions regarding the diagnosis and management persist. The purpose of this session is to provide clinicians and researchers with the latest update on HLA antibody testing, pathology, clinical management and future diagnostics.

### CHAIRS:

Deborah Levine, MD and Christian Benden, MD, FCCP

**2:00 PM** **HLA Antibody Testing – 2018**  
Adriana Zeevi, PhD, University of Pittsburgh, Pittsburgh, PA, USA

**2:20 PM** **Pathology of Pulmonary AMR**  
Desley Neil, FRCPath, Queen Elizabeth Hospital, Birmingham, United Kingdom

**2:40 PM** **Treatment of AMR in Lung Transplantation**  
Antoine Roux, MD, Foch Hospital, Suresnes, France

**3:00 PM** **DEBATE (Pro): We Should Treat De Novo DSA**  
Ramsey Hachem, MD, Washington University, St. Louis, MO, USA

**3:15 PM** **DEBATE (Con): We Should Treat De Novo DSA**  
Allan R. Glanville, MBBS, MD, FRACP, St. Vincent's Hospital, Sydney, Australia

**3:30 PM** **Debate Rebuttal (Pro)**  
Ramsey Hachem

**3:35 PM** **Debate Rebuttal (Con)**  
Allan Glanville

**3:40 PM** **Panel Discussion**



2:00 PM - 4:00 PM

**SYMPOSIUM 20:**  
CLIO/THALIE/ERATO

Th

## MALIGNANCY IN TRANSPLANTATION: TOO MUCH, TOO EARLY OR TOO LITTLE, TOO LATE?

**Primary Audience:** PHARM

**Secondary Audience:** BSTR, HF/HTX, ID, LF/LTX, NHSAH,  
PATH, PEDS, PHARM

**Session Summary:** The session will cover malignancy after transplantation focusing on causes, epidemiology, effective treatments and risks associated with immunosuppression minimization.

### CHAIRS:

Haifa Lyster, MSc and Andreas Zuckermann, MD

**2:00 PM** *The Root of All Evil: Pathophysiology/  
Epidemiology of Malignancy in Transplant*

Howard Eisen, MD, Drexel University,  
Philadelphia, PA, USA

**2:20 PM** Q&A

**2:24 PM** *The Bad Actor: the Role of Epstein-Barr Virus  
(EBV) Reactivation in the Development of  
Post-Transplant Lympho-Proliferative Disease*

Erik Verschuuren, MD, PhD, University Medical  
Center, Groningen, Netherlands

**2:44 PM** Q&A

**2:48 PM** *Treatment of Malignancy – More Than  
Just CHOPping Away at Cancer*

Nicole Kaiser, PharmD, BCOP, Children's Hospital  
Colorado, Aurora, CO, USA

**3:08 PM** Q&A

**3:12 PM** *Lurking in the Shadows: Risk of Rejection  
or Graft Failure Before, During and After  
Chemotherapy*

Monique Malouf, FRACP, St. Vincent's Hospital,  
Sydney, Australia

**3:32 PM** Q&A

**3:36 PM** *Looking Back and Moving Forward –  
Immunosuppression Before and After Cancer*

Edward Horn, PharmD, Allegheny General  
Hospital, Pittsburgh, PA, USA

**3:56 PM** Q&A

2:00 PM - 4:00 PM

**SYMPOSIUM 21:**  
URANIE/CALIOPE

Th

## GREAT DEBATES IN THE MANAGEMENT OF PAH: GENETICS, BRIDGE TO LUNG TRANSPLANT AND GOAL DIRECTED THERAPY

**Primary Audience:** PH

**Secondary Audience:** HF/HTX, LF/LTX, MCS, PEDS, PHARM

**Session Summary:** This symposium focuses on current challenges in decision making that physicians face in managing PAH patients in the setting of increased genetic/proteomic awareness, bridge to lung transplant, and management algorithms through a series of pro-con debates and didactic lectures.

**CHAIRS:** Ioana Preston, MD and Oksana A Shlobin, MD

**2:00 PM** *DEBATE (Pro): Gene vs. Product: Genetic  
Testing and Not Proteomics is the Path Forward  
to Realize Personalized Management of PAH*

Anna Hennes, MD, Vanderbilt University,  
Nashville, TN, USA

**2:15 PM** *DEBATE (Con): Gene vs. Product: Genetic  
Testing and Not Proteomics is the Path Forward  
to Realize Personalized Management of PAH*

Evelyn M. Horn, MD, Weill Cornell Medical Center,  
New York, NY, USA

**2:30 PM** *Debate Rebuttal (Pro)*

Anna Hennes

**2:35 PM** *Debate Rebuttal (Con)*

Evelyn Horn

**2:40 PM** *DEBATE (Pro): Early Application of  
ECLS is the Preferred Bridge to Lung  
Transplantation for PAH*

Clemens Aigner, MD, Ruhrlandklinik – University  
Essen, Essen, Germany

**2:55 PM** *DEBATE (Con): Early Application of ECLS is  
the Preferred Bridge to Lung Transplantation  
for PAH*

Erika Berman-Rosenzweig, MD, Columbia  
University, New York, NY, USA

**3:10 PM** *Debate Rebuttal (Pro)*

Clemens Aigner

**3:15 PM** *Debate Rebuttal (Con)*

Erika Berman Rosenzweig

**3:20 PM** *DEBATE (Pro): The ERS/ESC Risk Profiles  
are Superior to the REVEAL Calculator for  
Providing Goal Directed Therapy in PAH*

C. Dario Vizza, MD, University of Rome, Rome, Italy

**3:35 PM** *DEBATE (Con): The ERS/ESC Risk Profiles  
are Superior to the REVEAL Calculator for  
Providing Goal Directed Therapy in PAH*

Raymond L. Benza, MD, Allegheny General  
Hospital, Pittsburgh, PA, USA

**3:50 PM** *Debate Rebuttal (Pro)*

C. Dario Vizza

**3:55 PM** *Debate Rebuttal (Con)*

Raymond L. Benza

## 2:00 PM - 4:00 PM

### SYMPOSIUM 22: HERMES

Th

#### CYTOMEGALOVIRUS (CMV) IN THORACIC ORGAN TRANSPLANTATION – A CHANGING LANDSCAPE

**Primary Audience:** ID

**Secondary Audience:** BSTR, HF/HTX, LF/LTX, NHSAH, PATH, PEDS, PHARM

**Session Summary:** Cytomegalovirus (CMV) continues to present diagnostic and therapeutic challenges for clinicians caring for thoracic organ transplant recipients. Advances in CMV detection, such as quantitative PCR, have introduced uncertainties about when to initiate and cease therapy. Newer CMV immunoassays may change how we manage CMV. Prolonged prophylactic strategies with valganciclovir have reduced disease incidence, but present new challenges, including resistant and potentially untreatable CMV disease.

#### CHAIRS:

Aric Gregson, MD and Macé M Schuurmans, MD

**2:00 PM** *How Many Copies Do We Need? Viremia, Disease and Everything In Between*

Jutta K. Preiksaitis, MD, University of Alberta, Edmonton, AB, Canada

**2:15 PM** Q&A

**2:20 PM** *Counting Spots: The Use of CMV Immunoassays*

Kovi Levin, MD, The Alfred Hospital, Melbourne, Australia

**2:35 PM** Q&A

**2:40 PM** *CMV Immunoglobulins: When, Where and Why?*

Paolo A. Grossi, MD, PhD, University of Insubria, Varese, Italy

**2:55 PM** Q&A

**3:00 PM** *Prophylaxis Duration: Are We There Yet?*

Lara Danziger-Isakov, MD, MPH, Cincinnati Children's Hospital, Cincinnati, OH, USA

**3:15 PM** Q&A

**3:20 PM** *Resistance and Challenging Infections: Time to Get Creative*

Robin Avery, MD, Johns Hopkins University, Baltimore, MD, USA

**3:35 PM** Q&A

**3:40 PM** *Skirting the Abyss: Drug Toxicities*

Kyle Dawson, MBA, BCPS, University of Kentucky, Lexington, KY, USA

**3:55 PM** Q&A

## 4:30 PM - 6:00 PM

### ORAL SESSIONS 20-26

## 2:00 PM - 4:00 PM

### SYMPOSIUM 23: MEDITERRANEE 6

Th

#### TOO LITTLE OR TOO MUCH: CONTROVERSIES IN MONITORING AFTER PEDIATRIC THORACIC TRANSPLANTATION

**Primary Audience:** PEDS

**Secondary Audience:** ID, LF/LTX

**Session Summary:** Due to the small number of thoracic transplants in children, interventions and monitoring are extrapolated from adult and other solid organ transplant protocols. How imaging studies, biopsy, and routine cardiac catheterization or bronchoscopy examinations affect long term morbidities and mortality in children is unclear. In this session, experts in the field of pediatric thoracic transplantation will debate the impact of routine post-transplant care on long term morbidities and outcome.

#### CHAIRS:

Ranny Goldwasser, MD and  
Melinda P Solomon, MD, FRCPC

**2:00 PM** *Emerging Biomarkers in Pediatric Thoracic Transplantation*

Kevin P. Daly, MD, Boston Children's Hospital, Boston, MA, USA

**2:20 PM** *DEBATE (Pro): Bronchoscopy is the Gold Standard*

Brigitte Willemse, MD, University Medical Center, Groningen, Netherlands

**2:35 PM** *DEBATE (Con): Bronchoscopy is the Gold Standard*

Marc Schecter, MD, Cincinnati Children's Hospital, Cincinnati, OH, USA

**2:50 PM** *Debate Rebuttal (Pro)*

Brigitte W. Willemse

**2:55 PM** *Debate Rebuttal (Con)*

Marc Schecter

**3:15 PM** *DEBATE (Pro): Cardiac Catheterization is the Gold Standard*

Daphne T. Hsu, MD, Children's Hospital Montefiore, Bronx, NY, USA

**3:00 PM** *DEBATE (Con): Cardiac Catheterization is the Gold Standard*

Brian Feingold, MD, MS, Children's Hospital of Pittsburgh, Pittsburgh, PA, USA

**3:30 PM** *Debate Rebuttal (Pro)*

Daphne Hsu

**3:35 PM** *Debate Rebuttal (Con)*

Brian Feingold

**3:40 PM** *Panel Discussion*

## 6:15 PM - 7:15 PM

### MINI ORAL SESSIONS 7-12 & POSTER SESSION 2

## ORAL SESSIONS 27-32

F

## 8:30 AM - 10:00 AM

## SYMPOSIUM 24:

MEDITERRANEE 6

## RETRANSPLANTATION IN THE CHILD TO YOUNG ADULT – HISTORY REPEATING ITSELF?

**Primary Audience:** PEDS**Secondary Audience:** EEP, HF/HTX, LF/LTX, MCS, NNSAH, PHARM

**Session Summary:** Re-transplantation remains a clinical challenge in children and young adults. The demographics of primary transplantation have changed affecting retransplantation. Current outcomes of retransplantation, as well as the timing of retransplant work up, indications, contraindications and comorbidities affecting heart or lung retransplant will be reviewed as well as support strategies while listed for retransplant. The ethics of retransplantation will be discussed. A panel discussion with all speakers will conclude this session.

## CHAIRS:

Susan W Denfield, MD and Stuart Sweet, MD, PhD

- 8:30 AM Thoracic Retransplantation – Population at Risk and Outcomes**  
Zdenka Reinhardt, MD, Freeman Hospital, Newcastle Upon Tyne, United Kingdom
- 8:45 AM When Should the Cardiac Transplant Patient Be Considered for Retransplant?**  
Elfriede Pahl, MD, Lurie Children's Hospital, Chicago, IL, USA
- 9:00 AM Trials and Tribulations of Supporting the Cardiac Transplant Patient to Retransplant**  
Jennifer Conway, MD, Alberta Health Services, Edmonton, AB, Canada
- 9:15 AM When Should the Lung Transplant Patient Be Considered for Retransplant?**  
Tina Melicoff-Portillo, MD, Texas Children's Hospital, Houston, TX, USA
- 9:30 AM Should Anyone Be Considered for Retransplantation – Ethical Issues**  
Beth Kaufman, MD, Stanford University, Stanford, CA, USA
- 9:45 AM Panel Discussion**

## 10:30 AM - 12:30 PM

## PLENARY SESSION:

APOLLON

F

## MOVING CARDIOTHORACIC TRANSPLANTATION FORWARD

**Primary Audience:** ALL

## CHAIRS:

Lori J West, MD, DPhil and  
Allan R Glanville, MBBS, MD, FRACP

- 10:30 AM New Technologies to Advance Future Transplant Patient Care**  
Stefan Schneeberger, MD, Innsbruck Medical University, Innsbruck, Austria
- 10:50 AM Featured Abstract #3 MCS**
- 11:10 AM Transplant Registries to Improve Results: It Relates to Research, Regulation, Reporting and Reimbursement**  
David Reich, MD, FACS, Drexel University College of Medicine, Philadelphia, PA, USA
- 11:30 AM Featured Abstract #4 PEDS**
- 11:50 AM Tissue-Engineered Matrix to Generate Organs**  
Simon P. Hoerstrup, MD, PhD, IREM, University of Zurich, Zurich, Switzerland
- 12:10 PM Featured Abstract #5 PH**



SYMPOSIUM 25:  
APOLLON

F

## CRASHING AND BURNING: CARDIOGENIC SHOCK AND SHORT-TERM MCS

**Primary Audience:** MCS**Secondary Audience:** HF/HTX, NHSAA, PEDS, PHARM

**Session Summary:** Despite recent advances in the treatment of end-stage heart failure, cardiogenic shock remains a challenging condition. Short-term MCS is increasingly being used as a bridge to decision making in patients with refractory cardiogenic shock. The aim of this symposium is to review the clinical data on cardiogenic shock and the outcome. The use of MCS with particular emphasis on ECMO will be discussed. Patient selection, timing of device implantation, bridging to decision making under short-term MCS will be evaluated.

## CHAIRS:

Jaime A Hernandez Montfort, MD MPH and  
Stephan Schueler, MD, PhD, FRCS

- 2:00 PM** *Do We Need a New Classification for Cardiogenic Shock?*  
J. Eduardo Rame, MD, Penn Heart and Vascular Center, Philadelphia, PA, USA
- 2:15 PM** Q&A
- 2:20 PM** *Counterpulsation Response in Low-Output Heart Failure: Secondary Shock Prevention?*  
Jerry D. Estep, MD, The Methodist Hospital, Houston, TX, USA
- 2:35 PM** Q&A
- 2:40 PM** *Door to...Recovery! Contemporary Treatment of Acute Myocardial Infarction Maximizing Potential for Myocardial Recovery*  
Navin K. Kapur, MD, Tufts Medical Center, Boston, MA, USA
- 2:55 PM** Q&A
- 3:00 PM** *Decision-Making in Complex Cardiogenic Shock: The Surgeon's View*  
Ivan Netuka, MD, PhD, Institute for Clinical and Experimental Medicine, Prague, Czech Republic
- 3:15 PM** Q&A
- 3:20 PM** *Veno-Arterial ECMO: Indications and Surveillance*  
Shelley A. Hall, MD, Baylor University Medical Center, Dallas, TX, USA
- 2:35 PM** Q&A
- 3:40 PM** *Weaning from ECMO*  
Daniel Zimpfer, MD, Medical University of Vienna, Vienna, Austria
- 3:55 PM** Q&A

SYMPOSIUM 26:  
ATHENA

F

## CAN MY LUNG TRANSPLANT CANDIDATE TAKE THIS MEDICATION? WHAT TO DO WITH THE NEW DRUGS FOR LUNG FAILURE

**Primary Audience:** LF/LTX**Secondary Audience:** BSTR, ID, NHSAA, PEDS, PHARM

**Session Summary:** With the introduction of new medications for lung failure, concerns have surfaced about their preoperative safety and some programs restrict their use in candidates. This creates clinical quandaries revolving around assessing risk of disease progression vs. preoperative risks of using such medications. Debate also exists whether to continue to use some of these medications after the transplant. We will discuss some of the more common and controversial examples.

## CHAIRS:

Keith M Wille, MD, MSPH and Michael Durheim, MD

- 2:00 PM** *Use of Anticoagulation or Anti-Platelet Therapy While Waiting: Can It Be Done Safely?*  
Matthew G. Hartwig, MD, Duke University Medical Center, Durham, NC, USA
- 2:15 PM** Q&A
- 2:20 PM** *Is it Safe to Use mTOR Inhibition (Sirolimus or Everolimus) While Awaiting Lung Transplantation in Lymphangiomyomatosis (LAM)?*  
Daniel F. Dilling, MD, Loyola University Medical Center, Chicago, IL, USA
- 2:35 PM** Q&A
- 2:40 PM** *Planning for the Far Side: Antimicrobial Agents in Patients on the Wait List for Lung Transplantation*  
Orla Morrissey, MD, The Alfred Hospital, Melbourne, Australia
- 2:55 PM** Q&A
- 3:00 PM** *Are the Novel Antifibrotic Medications Safe for Use in Candidates for Lung Transplantation?*  
Hilary J. Goldberg, MD, Brigham & Women's Hospital, Boston, MA, USA
- 3:15 PM** Q&A
- 3:20 PM** *Lumacaftor/Ivacaftor Use Before and After Transplant in Cystic Fibrosis: Is It Indicated?*  
Adam B. Cochrane, PharmD, Inova Fairfax Hospital, Falls Church, VA, USA
- 3:35 PM** Q&A
- 3:40 PM** *Analgesia and Neuropharmacology: What is Acceptable in Lung Transplant Candidates*  
Linda J. Stuckey Fitzgerald, PharmD, BCPS, University of Michigan Hospital, Ann Arbor, MI, USA
- 3:55 PM** Q&A

2:00 PM - 4:00 PM

**SYMPOSIUM 27:**  
MEDITERRANEE ABC

F

## DCD LUNGS – EXPANDING UTILIZATION

**Primary Audience:** LF/LTX  
**Secondary Audience:** NHSAH

**Session Summary:** Ample data has accrued on the outcomes with DCD lungs demonstrating equivalence with DBD donors. Yet DCD lung utilization remains low outside of well-established centers. This session will attempt to break-down some of the barriers to broader utilization and describe strategies that have proven to be successful while highlighting lessons that we can all learn from. A panel discussion with all speakers will conclude this session.

### CHAIRS:

Aleem Siddique, MBBS and John Dark, MB, FRCS

- 2:00 PM** **Establishing a DCD Program**  
Dirk E. Van Raemdonck, MD, PhD,  
University Hospitals Leuven, Leuven, Belgium
- 2:20 PM** **Uncontrolled DCD: Can We Use It for Lung Transplant and How?**  
Thomas M. Egan, MD, MSC, UNC  
School of Medicine, Chapel Hill, NC, USA
- 2:40 PM** **Which Potential DCD Donor Will Progress to Donation? Measures to Predict and Optimize Resources**  
Peter M. Hopkins, FRACP, Prince Charles  
Hospital, Brisbane, Australia
- 3:00 PM** **DEBATE (Pro): We Need EVLP to Use Lungs from DCD**  
Andre R. Simon, MD, PhD, Harefield  
Hospital, London, United Kingdom
- 3:15 PM** **DEBATE (Con): We Need EVLP to Use Lungs from DCD**  
Kumud K. Dhital, MD, PhD, St. Vincent's  
Hospital, Sydney, Australia
- 3:30 PM** **Debate Rebuttal (Pro)**  
Andre R. Simon
- 3:35 PM** **Debate Rebuttal (Con)**  
Kumud K. Dhital
- 3:40 PM** **Panel Discussion**

2:00 PM - 4:00 PM

**SYMPOSIUM 28:**  
CLIO/THALIE/ERATO

F

## FIRST DAYS OF A NEW LIFE: MANAGEMENT AFTER HEART TRANSPLANT

**Primary Audience:** HF/HTX  
**Secondary Audience:** MCS, PHARM, PH

**Session Summary:** This session will focus on four important aspects of peri-operative care: pre-op optimization, post-transplant haemodynamics, post-transplant rhythm disturbances and early graft dysfunction. Each topic will start with case presentation with several open-ended questions that will lead to a lecture. A panel discussion with all speakers will conclude this session.

### CHAIRS:

Marta Farrero Torres, MD, PhD and Michael Pham, MD

- 2:00 PM** **CASE PRESENTATION: Patient with Co-Morbidities on LVAD Awaiting Heart Transplantation: What Should We Be Doing?**  
Jorge Silva Enciso, MD, UCSD Medical Center,  
San Diego, CA, USA
- 2:05 PM** **Preparing for Heart Transplantation: Are You Ready to Rumble?**  
Anique Ducharme, MD, MSC, Montreal  
Heart Institute, Montreal, QC, Canada
- 2:25 PM** **CASE PRESENTATION: A Patient Immediately Post Heart Transplant in ICU with PH, Vasoplegia, and Renal Failure on Multiple Vasoactive Agents: Now What?**  
Munir S. Janmohamed, MD, UCSF Medical  
Center, San Francisco, CA, USA
- 2:30 PM** **Managing the Immediate Post-Transplant Patient: It's All About the Volume, It's All About the Pressure**  
Jason N. Katz, MD, MHS, University of North  
Carolina, Chapel Hill, NC, USA
- 2:50 PM** **CASE PRESENTATION: A Thin Patient on LVAD as Bridge to Transplantation Early Post-Transplant with Bradycardia, Intermittent Atrial Fibrillation and Prolonged ITU Stay**  
Julia Riebandt, MD, Medical University of Vienna,  
Vienna, Austria
- 2:55 PM** **And the Beat Goes On: Managing the Immediate Post-Transplant Patient: Rhythm, Pulse, Fuel and Movement!**  
David A. Hormuth, MD, Indiana University Health  
Physicians, Indianapolis, IN, USA
- 3:15 PM** **CASE PRESENTATION: A Patient in ICU with Primary Graft Dysfunction on ECMO and CRRT: God Help Us!**  
Mitchell Psocka, MD, PhD, UCSF Medical Center,  
San Francisco, CA, USA
- 3:20 PM** **The Heart is Not Working... Don't Panic**  
Javier Segovia, MD, PhD, Hospital Puerta De Hierro,  
Madrid, Spain
- 3:40 PM** **Panel Discussion**

2:00 PM - 4:00 PM

**SYMPOSIUM 29:**  
URANIE/CALIOPE

F

## JOINT ISHLT/ESC SYMPOSIUM: PULMONARY HYPERTENSION DUE TO LEFT HEART DISEASE: WHEN RIGHT MEETS LEFT

**Primary Audience:** PH

**Secondary Audience:** BSTR, HF/HTX, NHSAH, PATH, PEDS, PHARM

**Session Summary:** This session, supported by a collaborative effort with the European Society of Cardiology (ESC), will discuss and debate the latest advances in PH due to left heart diseases, the leading cause of PH, after the World Symposium on PH held in Nice (Feb 25th to March 1st 2018). A panel discussion with all speakers will conclude this session.

### CHAIRS:

Irene Lang, MD and Stephan Rosenkranz, MD

- 2:00 PM** *From Nice 2013 to Nice 2018: Same Venue but Some Changes*  
Jean-Luc Vachier, MD, Erasme University Hospital, Brussels, Belgium
- 2:15 PM** *The PH-HFpEF Phenome: Redefining the Disease*  
Sanjiv J. Shah, MD, Northwestern University, Chicago, IL, USA
- 2:30 PM** *The Failing Right Heart in Left Heart Diseases: Any Different from What We See in PAH?*  
Stephan Rosenkranz, MD, University Heart Center, Cologne, Germany
- 2:45 PM** *Provocative Testing in the Cath Lab to Unmask Pulmonary Hypertension Due to Left Heart Disease*  
Susanna Mak, MD, PhD, Mount Sinai Hospital, Toronto, ON, Canada
- 3:00 PM** *DEBATE (Pro): PH Due to LHD Should Not Be Treated with Vasodilators*  
Nazzareno Galiè, MD, Bologna University Hospital, Bologna, Italy
- 3:15 PM** *DEBATE (Con): PH Due to LHD Should Not Be Treated with Vasodilators*  
Mardi Gomberg-Maitland, MD, Inova Fairfax, Falls Church, VA, USA
- 3:30 PM** *Debate Rebuttal (Pro)*  
Nazzareno Galiè
- 3:35 PM** *Debate Rebuttal (Con)*  
Mardi Gomberg-Maitland
- 3:40 PM** *Panel Discussion*

2:00 PM - 4:00 PM

**SYMPOSIUM 30:**  
HERMES

F

## JOINT ISHLT/TTS-TID SYMPOSIUM: INFECTIOUS CHALLENGES AROUND THE WORLD – COMMON THREADS

**Primary Audience:** ID

**Secondary Audience:** EEP, HF/HTX, LF/LTX, NHSAH, PEDS, PHARM

**Session Summary:** This symposium draws experts from ISHLT and the international Transplant Infectious Diseases (TID) section of The Transplantation Society (TTS) to create a joint symposium which addresses important and timely topics in Infectious Diseases.

### CHAIRS:

Clarisse Machado, MD and Michael G Ison, MD, MS

- 2:00 PM** *What's All the Fuss? Emerging Arboviral Infections*  
Clarisse Machado, MD, University of São Paulo, São Paulo, Brazil
- 2:15 PM** *Q&A*
- 2:20 PM** *Cryptococcus: A Perennial Problem*  
John W. Baddley, MD, MSPH, University of Alabama at Birmingham, Birmingham, AL, USA
- 2:35 PM** *Q&A*
- 2:40 PM** *The Latest and Greatest in the Prevention and Management of CMV*  
Camille Kotton, MD, Massachusetts General Hospital, Boston, MA, USA
- 2:55 PM** *Q&A*
- 3:00 PM** *Time to Man the Global Barricades: Multi-Drug Resistant Organisms on the March*  
Stephanie Pouch, MD, Emory University, Atlanta, GA, USA
- 3:15 PM** *Q&A*
- 3:20 PM** *To Screen or Not to Screen: That is the Question! Global Donor Screening Issues*  
Ban Hock Tan, MD, Singapore General Hospital, Singapore, Malaysia
- 3:35 PM** *Q&A*
- 3:40 PM** *Parasitic Cases: Hot Bugs in a Warming World*  
Joanna M. Schaeffer, MD, PhD, UCLA School of Medicine, Los Angeles, CA, USA
- 3:55 PM** *Q&A*



## 2:00 PM - 4:00 PM

### SYMPOSIUM 31: MEDITERRANEE 6

F

#### PEDIATRIC HEART FAILURE: MCS, ICU CARE, AND EARLY GRAFT DYSFUNCTION

*Primary Audience:* PEDS *Secondary Audience:* HF/HTX, MCS

**Session Summary:** The goal of this session is to gain a better understanding of the evaluation and treatment of the failing heart in the intensive care unit setting. This will include discussions on evaluation and treatment of acute heart failure in both cardiomyopathy and congenital heart disease, care of patients on mechanical circulatory support while awaiting heart transplant and care in the ICU after transplantation.

#### CHAIRS:

Estela Azeka, MD and Holger W Buchholz, MD

**2:00 PM** *Short-Term Mechanical Support for Children:  
A Bridge Across Troubled Waters*

Katsuhide Maeda, MD, Stanford University,  
Stanford, CA, USA

**2:15 PM** Q&A

**2:20 PM** *Pushing the Limits of Organ Acceptance:  
Take It or Leave It*

Farhan Zafar, MD, Cincinnati Children's Hospital  
Medical Center, Cincinnati, OH, USA

**2:35 PM** Q&A

**2:40 PM** *Anesthesia and ICU Considerations in the  
First 24 Hours: Best Day of My Life*

Martin Schweiger, MD, PhD, Children's Hospital  
Zurich, Zurich, Switzerland

**2:55 PM** Q&A

**3:00 PM** *Non-Cardiac Organ Dysfunction After Heart  
Transplant in Children and Adults with Congenital  
Heart Disease: Don't You Forget About Me*

Kimberly Lin, MD, Children's Hospital of  
Philadelphia, Philadelphia, PA, USA

**3:15 PM** Q&A

**3:20 PM** *Proceed with Caution After Positive Crossmatch:  
Breaking In a Brand New Broken Heart*

Steven A. Webber, MBChB, Monroe Carrell Jr.  
Children's Hospital, Nashville, TN, USA

**3:35 PM** Q&A

**3:40 PM** *It Just Needs a Little Time: Graft Failure After  
Heart Transplant*

Anne Dipchand, MD, Hospital for Sick Children,  
Toronto, ON, Canada

**3:55 PM** Q&A

## 4:30 PM - 6:00 PM

### ORAL SESSIONS 33-39

## 6:15 PM - 7:15 PM

### MINI ORAL SESSIONS 13-16 & POSTER SESSION 3

SATURDAY, APRIL 14, 2018

## 8:15 AM - 9:45 AM

### ORAL SESSIONS 40-45

S

## 10:00 AM - 12:00 PM

### PLENARY SESSION

ATHENA

*Primary Audience:* ALL

#### CHAIRS:

Jeffrey J Teuteberg, MD and  
Lara Danziger-Isakov, MD, MPH

**10:00 AM** *Awards Presentations  
(Grants & Awards Committee Co-chairs)*

**10:30 AM** *What's Hot, What's New? -  
Basic Science*  
Sonja Schrepfer, MD, PhD, UCSF  
Medical Center, San Francisco, CA, USA

**10:55 AM** *What's Hot, What's New? -  
Clinical Science*  
Laurie D. Snyder, MD, Duke University  
Medical Center, Durham, NC, USA

**11:20 AM** *PRESIDENT'S DEBATE: Dead in  
Melbourne, Alive in Philadelphia:  
DCDo's and DCDOn'ts - We DCDo*  
Gregory I. Snell, FRACP, MBBS, Alfred Hospital,  
Melbourne, Australia

**11:35 AM** *PRESIDENT'S DEBATE: Dead in  
Melbourne, Alive in Philadelphia:  
DCDo's and DCDOn'ts - We DCDOn't*  
Howard Eisen, MD, Drexel University,  
Philadelphia, PA, USA

**11:50 AM** *Debate Rebuttal: We DCDo*  
Gregory Snell

**11:55 AM** *Debate Rebuttal: We DCDOn't*  
Howard Eisen

## 12:15 PM - 1:45 PM

### ORAL SESSIONS 46-51

**INTERNATIONAL SOCIETY FOR HEART AND  
LUNG TRANSPLANTATION**

# **ISHLT ACADEMY**

**TUESDAY, APRIL 10, 2018**

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.

**THE ACROPOLIS CONGRÈS CENTRE  
NICE, FRANCE**





THE FOLLOWING ACADEMY COURSES WILL BE OFFERED IN APRIL 2018 IN CONJUNCTION WITH THE ISHLT ANNUAL MEETING. REGISTRATION FOR THESE COURSES MUST BE MADE VIA THE ANNUAL MEETING REGISTRATION PROCESS.

**MCS**

**CORE COMPETENCIES IN MECHANICAL CIRCULATORY SUPPORT  
TUESDAY, APRIL 10 • 8:00 AM – 5:30 PM • ATHENA**

**HF/HTX**

**CORE COMPETENCIES IN HEART FAILURE AND CARDIAC  
TRANSPLANTATION • TUESDAY, APRIL 10  
7:55 AM – 5:30 PM • MÉDITERRANÉE ABC**

**LTX**

**CORE COMPETENCIES IN LUNG TRANSPLANTATION  
TUESDAY, APRIL 10 • 7:55 AM – 5:45 PM • HERMES**

**MCS**

**MASTER CLASS IN MECHANICAL CIRCULATORY SUPPORT  
TUESDAY, APRIL 10 • 8:00 AM – 1:00 PM • CLIO & THALIE  
TUESDAY, APRIL 10 • 2:00 PM – 7:00 PM • CLIO & THALIE  
(REPEAT OF MORNING CLASS)**

**CTEPH**

**MASTER CLASS IN CHRONIC THROMBOEMBOLIC PULMONARY  
HYPERTENSION • TUESDAY, APRIL 10  
2:00 PM – 7:00 PM • ERATO & URANIE**

ISHLT ACADEMY  
**CORE COMPETENCIES  
 IN MECHANICAL CIRCULATORY  
 SUPPORT**

**TUESDAY, APRIL 10, 2018**  
**ATHENA**

**8:00 AM – 5:30 PM**



**SCIENTIFIC PROGRAM COMMITTEE**

- CHAIR:** **Diyar Saeed, MD, PhD,**  
 Heinrich-Heine University, Dusseldorf, Germany
- CO-CHAIR:** **Palak Shah, MD, MS,** Inova Fairfax Hospital, Falls Church, VA, USA
- CO-CHAIR:** **Jennifer Cook, MD,** University of Arizona Heart Center, Tucson, AZ, USA

**FACULTY**

- Saima Aslam, MD, MS,** USCD Medical Center, San Diego, CA, USA
- Jennifer Cook, MD,** University of Arizona Heart Center, Tucson, AZ, USA
- Michael Dickinson, MD,** Spectrum Health, Grand Rapids, MI, USA
- Jonathan Haft, MD,** University of Michigan, Ann Arbor, MI, USA
- Douglas Horstmanshof, MD,** Integris Baptist Medical Center, Oklahoma City, OK, USA
- Susan M. Joseph, MD,** Baylor University Medical Center, Dallas, TX, USA
- Antonio Loforte, MD, PhD,** S. Orsola Hospital, Bologna, Italy
- Nader Moazami, MD,** NYU Langone Medical Center, New York, NY, USA
- Kavitha Muthiah, MBChB, PhD,** St. Vincent's Hospital, Sydney, Australia
- Samer Najjar, MD,** Medstar Heart Institute, Washington, DC, USA
- Evgenij Potapov, MD, PhD,** Deutsches Herzzentrum, Berlin, Germany
- Vivek Rao, MD, PhD,** Toronto General Hospital, Toronto, ON, Canada
- Ryan Tedford, MD,** Medical University of South Carolina, Charleston, SC, USA
- Diyar Saeed, MD, PhD,** Heinrich-Heine University, Dusseldorf, Germany
- Christopher Salerno, MD,** St Vincent Heart Center of Indiana, Indianapolis, IN, USA
- Thomas Schloeglhofer, BSc,** Medical University of Vienna, Vienna, Austria
- Stephan Schueler, MD, PhD, FRCS,** Newcastle Upon Tyne Hospital, Newcastle Upon Tyne, United Kingdom
- Palak Shah, MD, MS,** Inova Fairfax Hospital, Falls Church, VA, USA
- Lynne Warner Stevenson, MD,** Brigham & Women's Hospital, Boston, MA, USA

## **COURSE SUMMARY**

The purpose of this Core Competency Course is to provide a concise review of clinical knowledge and outline of the essential professional skills for candidate assessment and longitudinal support for mechanical circulatory support patients. This course should serve programs providing mechanical circulatory support with a tool to review their standards of care, develop protocols, and implement guidelines established in management of mechanical circulatory support patients.

The course consists of six plenary sessions; in the first session, the current state of mechanical circulatory support systems is reviewed, followed by the challenging task of adequate patient selection and preoperative preparation including proper assessment tools of right ventricular function. In the third session, all surgical aspects and alternative approaches of assist device implantation are addressed, followed by immediate post-operative care related issues and management of right ventricular insufficiency. The fifth session addresses the preparation strategies for proper and safe patient transition to home. In the final session, adequate management of device related long term complications are presented.

## **PRACTICE GAPS**

The field of the mechanical circulatory support systems has experienced steady growth during the last years. The management of these complex patients remains challenging and starts prior to the surgical procedures. There is still a lack of adequate knowledge of proper patient selection, right ventricular assessment, and proper management of device-related complications. This course will address all important aspects in the management of these patients starting from patient selection and preparation for the assist device implantation. Further, several alternative implantation approaches and surgical pitfalls are presented. Finally, issues related to the home transition and adequate state of art management strategies of assist device related complication management are addressed.

## **TARGET AUDIENCE**

While all members are invited to enroll, this course is primarily designed to benefit clinicians and allied professionals who are in the early stages of their careers, 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 a detailed update for those who are already proficient experts in the field.

## **EDUCATIONAL NEED**

This course is designed to meet the practitioner's educational need for a targeted review of clinical knowledge and essential professional skills to facilitate best practice of surgical and medical aspects involved in the care of patients with mechanical circulatory support devices.



## LEARNING OBJECTIVES

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

1. Explain how to risk stratify patients 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 events encountered after MCS.

## 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 8.00 *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 ISHLT. Maximum of 8.00 contact hours.

## 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. These disclosures will be distributed at the meeting. 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

**7:00 AM – 8:00 AM**

REGISTRATION AND MORNING COFFEE

**8:00 AM – 8:05 AM**

**WELCOME AND OVERVIEW**

**Diyar Saeed, MD, PhD**, Heinrich-Heine University, Dusseldorf, Germany

**8:05 AM – 9:15 AM**

**SESSION 1: REVIEW OF THE CURRENT STATE OF MCS**

**Chair: Diyar Saeed, MD, PhD**

**8:05 AM MCS Technology 101**

**Evgenij Potapov, MD, PhD**, Deutsches Herzzentrum, Berlin, Germany

**Teaching/Discussion Points**

- Review of current technologies available
- Pump behaviors with different loading conditions
- TAH

**8:25 AM BTT and DT Outcome**

**Lynne Warner Stevenson, MD**, Brigham & Women's Hospital, Boston, MA, USA

**Teaching/Discussion Points**

- Outcomes with current technologies
- Adverse events with current technologies

**8:40 AM Short-term Support and Shock**

**Jonathan Haft, MD**, University of Michigan, Ann Arbor, MI, USA

**Teaching/Discussion Points**

- Percutaneous technologies
- Biventricular support considerations
- ECMO

**9:00 AM Q&A with panel**

**9:15 AM – 10:30 AM**

**SESSION 2: PATIENT SELECTION**

**Chair: Palak Shah, MD, MS**

**9:15 AM When Should Patients be Referred: Warning Signs**

**Douglas Horstmanshof, MD**, Integris Baptist Medical Center, Oklahoma City, OK, USA

**Teaching/Discussion Points**

- Risk factors which presage patient decline (renal function, intolerance of medications, hospitalizations)
- Risk stratification of patients based on HF severity and MCS operative risk (case based)

**9:35 AM Assessing and Optimizing RV Function Preoperatively**

**Ryan Tedford, MD**, Medical University of South Carolina, Charleston, SC, USA

**Teaching/Discussion Points**

- Impact of RV failure
- Pre-operative assessment and management of the RV including imaging and risk prediction (case based)

**9:55 AM Quality of Life After VAD and the Impact of Frailty and Social Behaviors on VAD Success**

**Susan M. Joseph, MD**, Baylor University Medical Center, Dallas, TX, USA

**Teaching/Discussion Points**

- Factors that can have a significant impact on success after VAD
- Screening tools available for risk assessment

**10:15 AM Q&A with panel**

**10:30 AM – 10:45 AM**

COFFEE BREAK

**10:45 AM – NOON**

**SESSION 3: SURGICAL CONSIDERATIONS**

**Chair: Diyar Saeed, MD, PhD**

**10:45 AM Key Surgical Aspects of Implantation**

**Nader Moazami, MD**, NYU Langone Medical Center, New York, NY, USA

**Teaching/Discussion Points**

- Inflow cannula/pump placement
- Intraoperative considerations
- Driveline tunneling
- Optimal outflow graft anastomose
- Surgical tips and tricks

**11:05 AM How Much Else is Too Much?**

**Stephan Schueler, MD, PhD, FRCS**, Newcastle Upon Tyne Hospital, Newcastle Upon Tyne, United Kingdom

**Teaching/Discussion Points**

- Management of aortic valve insufficiency
- Approach to tricuspid and mitral valve insufficiency
- Challenges like prior Dor procedures and Congenitals

**11:25 AM Tailoring Pumps to Patients**

**Diyar Saeed, MD**, Heinrich-Heine University, Dusseldorf, Germany

**Teaching/Discussion Points**

- Considerations for pump-patient matching
- Different approaches for VAD implantation
- Advantages and disadvantages of minimal invasive approaches
- Off-Pump vs. On-Pump VAD implantation options

**11:45 AM Q&A with panel**

**NOON – 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: Jennifer Cook, MD

**1:00 PM *Managing the RV Postop***

Christopher Salerno, MD, St Vincent Heart Center of Indiana, Indianapolis, Indiana, USA

**Teaching/Discussion Points**

- Considerations for impact of LVAD pump speed on RV function
- 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, ON, Canada

**Teaching/Discussion Points**

- When to start anticoagulation and antiplatelet therapy regimens
- Data on platelet function testing and heparin level monitoring

**1:40 PM *Pump Speed Optimization: The Role of Imaging and Hemodynamics***

Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, Virginia, USA

**Teaching/Discussion Points**

- How to meld imaging and hemodynamics to optimize pump settings
- Highlight early and late postoperative pump speed considerations
- Define the role of echocardiography to evaluate underlying hemodynamics and optimize the pump speed to curb smoldering heart failure

**2:00 PM *Q&A with panel*****2:15 PM – 3:15 PM****SESSION 5: TRANSITION TO HOME**

Chair: Jennifer Cook, MD

**2:15 PM *VAD Education: Patient/Caregiver Assessments and Strategies for Successful VAD Self-Care***

Thomas Schloegelhofer, BSc, Medical University of Vienna, Vienna, Austria

**Teaching/Discussion Points**

- Approaches to education of the patient and caregiver prior to discharge
- 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, USA

**Teaching/Discussion Points**

- Challenges of starting a VAD program
- Key elements of success

**2:45 PM *Optimal Outpatient Management of VAD Recipients***

Antonio Loforte, MD, PhD, S. Orsola Hospital, Bologna, Italy

**Teaching/Discussion Points**

- Lab
- Blood pressure monitoring
- Echo monitoring

**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****A case based session**

Chair: Palak Shah, MD, MS

**3:30 PM *LVAD Infections: Prevention, Diagnosis and Management***

Saima Aslam, MD, MS, UCSD Medical Center, San Diego, CA, USA

**Teaching/Discussion Points**

- VAD infections
- Radiology studies important for diagnosis
- Therapeutic recommendations

**3:50 PM *Stroke: Risk Factors for Hemorrhagic and Embolic CNS Complications and Management Strategies***

Samer Najjar, MD, Medstar Heart Institute, Washington, DC, USA

**Teaching/Discussion Points**

- Diagnosis
- Risk factors
- Management strategies

**4:10 PM *Pump Thrombosis: Diagnostic Strategies and Management Algorithms***

Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, Virginia, USA

**Teaching/Discussion Points**

- Frequency, diagnosis, and management strategies for suspected pump thrombosis

**4:30 PM *Aortic Insufficiency in LVAD Recipients: Incidence, Screening and Management***

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

**Teaching/Discussion Points**

- Cumulative incidence
- Clinical consequences
- Management of AI after LVAD

**4:50 PM *GI Bleeding***

Kavitha Muthiah, MBChB, PhD, St. Vincent's Hospital, Sydney, Australia

**Teaching/Discussion Points**

- Frequency, diagnosis and management of GI bleeding after LVAD therapy
- New data on octreotide

**5:10 PM *Q&A with panel*****5:20 PM *COURSE SUMMARY AND ASSESSMENT***

Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, Virginia, USA

**5:30 PM *ADJOURN***



ISHLT ACADEMY  
**CORE COMPETENCIES  
IN HEART FAILURE AND  
CARDIAC TRANSPLANTATION**

**TUESDAY, APRIL 10, 2018**  
**MEDITERRANEE ABC**

**7:55 AM – 5:30 PM**



## **SCIENTIFIC PROGRAM COMMITTEE**

- CHAIR:** Shelley Hall, MD, Baylor University Medical Center, Dallas, TX, USA  
**CO-CHAIR:** Lavanya Bellumkonda, MD, Yale University of Medicine, New Haven, CT, USA  
**CO-CHAIR:** Eric Epailly, MD, Les Hopitaux University, Strasbourg, France

## **FACULTY**

- David Baran, MD, FACC, FSCAI, Sentara Transplant Center, Norfolk, VA, USA  
Lavanya Bellumkonda, MD, Yale University School of Medicine, New Haven, CT, USA  
Rebecca Cogswell, MD, University of Minnesota, Minneapolis, MN, USA  
Eugene C. DePasquale, MD, David Geffen School of Medicine, Los Angeles, CA, USA  
Eric Epailly, MD, Les Hopitaux University, Strasbourg, France  
Marta Farrero Torres, MD, PhD, Hospital Clinic de Barcelona, Barcelona, Spain  
Maria Frigerio, MD, A.O. Niguarda-Ca'Granda, Milan, Italy  
Shelley Hall, MD, Baylor University Medical Center, Dallas, TX, USA  
Ranjit John, MD, University of Minnesota, Minneapolis, MN, USA  
Susan Joseph, MD, Baylor University Medical Center, Dallas, TX, USA  
Luciano Potena, MD, PhD, University of Bologna, Bologna, Italy  
Daniel Reichart, MD, University Heart Center Hamburg, Hamburg, Germany  
Scott Silvestry, MD, Florida Hospital Transplant Institute, Orlando, FL, USA  
Jean-Luc Vachier, MD, Erasme University Hospital, Brussels, Belgium  
Andre Vincentelli, MD, PhD, CHU Regional de Lille Hospital Cardiologique, Lille, France

**COURSE SUMMARY**

This course is designed for early career professionals with an interest in congestive heart failure, cardiac transplantation, and mechanical circulatory support. Each section is designed with focused, didactic lectures followed by Q&A. The first section will cover the general topics of heart failure – definitions, epidemiology, pathophysiology, and etiology. It will then move to signs and symptoms, diagnostic process and management, and treatment modalities, followed by a focus on the acute decompensated heart – challenges in recognition and treatment, as well as new developments. The second section will review updates in the understanding and treatment of heart failure with preserved ejection fraction HFpEF, and pulmonary hypertension with an emphasis on its relationship with heart failure. The third section will encompass the cardiac transplant patient, from evaluation of the recipient candidate and donor to perioperative management principles, immunology, immunosuppression, rejection and common long-term challenges. The final section will review the history and development of mechanical circulatory support and management of common complications.

**PRACTICE GAPS**

Heart failure is a leading cause of morbidity and mortality world-wide, and while significant advances have occurred, they are still not consistently implemented in every day practice. Clinicians need to understand the principles of acute and chronic heart failure disease management, including advanced treatment options, in order to deliver optimal care to these complex patients.

**TARGET AUDIENCE**

While all members are invited to enroll, this course is primarily designed to benefit health care professionals who are in the early stages of their careers, are in training, are part of a new program, or who desire an update on the current state of the field. The information presented is intended to provide a strong foundation of the core competencies of heart failure, cardiac transplantation and mechanical circulatory support, rather than as a detailed update for those who are already proficient in the field.

**EDUCATIONAL NEED**

This course is designed to meeting the practitioner's education need for a targeted review of clinical knowledge and essential professional skills to facilitate best practice of surgical and medical aspects involved in the care of patients with heart failure, cardiac transplantation, and mechanical circulatory support devices.

## LEARNING OBJECTIVES

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

1. Understand the general concepts, definitions and management principles of patients with heart failure.
2. Understand the general concepts, indications, contraindications and management principles of patients who are evaluated for and receive cardiac transplant.
3. Understand the general concepts, indications, contraindications and management principles of patients who are evaluated for, and receive mechanical circulatory support devices.

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# SCIENTIFIC PROGRAM SCHEDULE

## 7:00 AM – 7:55 AM

REGISTRATION & MORNING COFFEE

## 7:55 AM – 8:00 AM

### WELCOME AND OVERVIEW

**Shelley Hall, MD**, Baylor University Medical Center, Dallas, TX, USA

## 8:00 AM – 9:00 AM

### SESSION 1: HEART FAILURE: OVERVIEW AND EVALUATION

Chair: **Shelley Hall, MD**

## 8:00 AM *Heart Failure: General Overview and Concepts*

**Rebecca Cogswell, MD**, University of Minnesota, Minneapolis, MN, USA

#### Teaching/Discussion Points

1. Epidemiology of heart failure
2. Classification of heart failure (Stages, NYHA)
3. Pathophysiology: hemodynamic alterations
4. Pathophysiology: neurohormonal activation
5. Pathophysiology: cellular changes
6. Causes of heart failure

## 8:15 AM *Evaluation of Patients with Heart Failure*

**Marta Farrero Torres, MD, PhD**, Hospital Clinic de Barcelona, Barcelona, Spain

#### Teaching/Discussion Points

1. Signs and symptoms
2. Biomarkers
3. Screening guidelines
4. Risk stratification
5. Indicators for advance therapy referral

## 8:30 AM *Heart Failure Tests*

**Eugene C. DePasquale, MD**, David Geffen School of Medicine, Los Angeles, CA, USA

#### Teaching/Discussion Points

1. Role of right heart catheterization and hemodynamic monitoring
2. Cardiopulmonary exercise testing interpretation
3. When to perform endomyocardial biopsy
4. Ischemia evaluation

## 8:45 AM *Q&A with Panel*

## 9:00 AM – 10:00 AM

### SESSION 2: MANAGEMENT OF PATIENTS WITH CHRONIC HF/EF

Chair: **Eric Epailly, MD**

## 9:00 AM *Non-Pharmacologic and Pharmacologic Management*

**Lavanya Bellumkonda, MD**, Yale University School of Medicine, New Haven, CT, USA

#### Teaching/Discussion Points

1. Sodium and fluid management
2. Risk factor modification (obesity, inactivity, sleep apnea, HTN, DM, smoking)
3. Diuretics
4. Neurohormonal therapies (including new agents)
5. Anticoagulation, statins
6. Palliative care

## 9:15 AM *Principles for Arrhythmia Management and Electrical Devices*

**Maria Frigerio, MD, A.O.** Niguarda-Ca'Granda, Milan, Italy

#### Teaching/Discussion Points

1. Atrial fibrillation management
2. Ventricular arrhythmias
3. ICDs
4. CRT

## 9:30 AM *Surgical Management of Heart Failure*

**Daniel Reichart, MD**, University Heart Center Hamburg, Hamburg, Germany

#### Teaching/Discussion Points

1. High risk PCI
2. Surgical revascularization
3. Surgical valve surgery
4. TAVR and Mitraclip

## 9:45 AM *Q&A with Panel*

## 10:00 AM – 10:30 AM

COFFEE BREAK

## 10:30 AM – 11:30 AM

### SESSION 3: ACUTE DECOMPENSATED HEART FAILURE

Chair: **Lavanya Bellumkonda, MD**

## 10:30 AM *Epidemiology and Pharmacologic Management*

**David Baran, MD, FACC, FSCAI**, Sentara Transplant Center, Norfolk, VA, USA

#### Teaching/Discussion Points

1. Definition and epidemiology
2. Etiologies and pathophysiology
3. Pharmacologic management
4. Cardiorenal syndrome
5. RV failure

**10:45 AM** *Cardiogenic Shock*  
**Shelley Hall, MD**, Baylor University  
Medical Center, Dallas, TX, USA

**Teaching/Discussion Points**

1. Recognition of shock
2. Inotrope usage
3. IABP
4. Tandem and Impella
5. ECMO

**11:00 AM** *Transitions of Care*  
**Rebecca Cogswell, MD**, University  
of Minnesota, Minneapolis, MN, USA

**Teaching/Discussion Points**

1. Home inotropes
2. Referral for transplant or VAD
3. Palliative care
4. Preventing readmissions

**11:15 AM** *Q&A with Panel*

**11:30 AM – 1:00 PM**

LUNCH BREAK  
(a box lunch is included in the  
registration fee)

**1:00 PM – 2:00 PM**  
**SESSION 4: HFpEF AND  
PULMONARY HYPERTENSION**  
**Chair: Shelley Hall, MD**

**1:00 PM** *HFpEF*  
**Susan Joseph, MD**, Baylor University  
Medical Center, Dallas, TX, USA

**Teaching/Discussion Points**

1. Definition
2. Etiology and triggers
3. Epidemiology
4. Diagnosis
5. Evaluation
6. Management

**1:20 PM** *Pulmonary Hypertension:  
PAH in Heart Failure*

**Jean-Luc Vachieri, MD**, Erasme  
University Hospital, Brussels, Belgium

**Teaching/Discussion Points**

1. Definition
2. WHO classification
3. Etiologies
4. RHC interpretation
5. Medical therapies
6. Procedural therapies

**1:40 PM** *Q&A with Panel*

**2:00 PM – 3:00 PM**  
**SESSION 5: HEART  
TRANSPLANTATION 101**  
**Chair: Lavanya Bellumkonda, MD**

**2:00 PM** *Evaluation of the  
Transplant Candidate*

**Luciano Potena, MD, PhD**, University  
of Bologna, Bologna, Italy

**Teaching/Discussion Points**

1. Indications for transplant
2. Contraindications for transplant
3. Evaluation process
4. Special groups – highly sensitized, retx, congenital
5. Allocation systems

**2:15 PM** *Perioperative  
Management*

**Ranjit John, MD**, University of  
Minnesota, Minneapolis, MN, USA

**Teaching/Discussion Points**

1. Donor evaluation
2. Perioperative drips and monitoring
3. Perioperative infectious prophylaxis
4. Immunosuppression
5. Common complications (RV dysfunction, PGD, Renal dysfunction)

**2:30 PM** *Chronic Care of the  
Transplant Recipient*

**Eric Epailly, MD**, Les Hopitaux  
University, Strasbourg, France

**Teaching/Discussion Points**

1. Rejection surveillance and treatment
2. Immunosuppression strategies
3. Common infectious considerations
4. Common medical complications

**2:45 PM** *Q&A with Panel*

**3:00 PM – 3:30 PM**  
COFFEE BREAK

**3:30 PM – 4:30 PM**  
**SESSION 6: MECHANICAL  
CIRCULATORY SUPPORT**  
**Chair: Eric Epailly, MD**

**3:30 PM** *Current Devices  
and Outcomes*

**Scott Silvestry, MD**, Florida Hospital  
Transplant Institute, Orlando, FL, USA

**Teaching/Discussion Points**

1. History of device development
2. Continuous vs Pulsatile devices
3. Axial vs Centrifugal flow
4. Evaluation scales
5. Candidate selection

**3:50 PM** *Chronic Complications  
in MCS*

**Andre Vincentelli MD, PhD**,  
CHU Regional de Lille Hospital  
Cardiologique, Lille, France

**Teaching/Discussion Points**

1. GI bleeding
2. CVA
3. Driveline infections
4. Aortic insufficiency
5. Pump thrombosis
6. Late RV failure

**4:10 PM** *Q&A with panel*

**4:30 PM – 5:30 PM**

**SESSION 7: CASE PRESENTATIONS**

**Chairs:** Shelley Hall, MD;  
Lavanya Bellumkonda, MD;  
Eric Epailly, MD

**4:30 PM** *Cardiogenic Shock Case*

**David Baran, MD, FACC, FSCAI,**  
Sentara Transplant Center, Norfolk,  
VA, USA

**Teaching/Discussion Points**

1. Emphasize evaluation process
2. Discuss treatment options
3. Review triggers for transplant/  
VAD consideration
4. Mention criteria for  
palliative care

**4:45 PM** *Transplant vs VAD Case*

**Susan Joseph, MD,** Baylor University  
Medical Center, Dallas, TX, USA

**Teaching/Discussion Points**

1. Standard patient profile
2. Data that supports transplant  
vs VAD
3. How to decide
4. When is it too late?

**5:00 PM** *Q&A with Panel*

**5:15 PM** *COURSE SUMMARY  
AND EVALUATION*

**Shelley Hall MD,** Baylor University  
Medical Center, Dallas, TX, USA

**5:30 PM** *ADJOURN*



ISHLT ACADEMY  
**CORE COMPETENCIES  
 IN LUNG TRANSPLANTATION**

**TUESDAY, APRIL 10, 2018**  
**HERMES**

**7:55 AM – 5:45 PM**



**SCIENTIFIC PROGRAM COMMITTEE**

- CHAIR:** Lorriana Leard, MD, UCSF Medical Center, San Francisco, CA, USA  
**CO-CHAIR:** Göran Dellgren, MD, PhD, Sahlgrenska University Hospital, Goteborg, Sweden  
**CO-CHAIR:** Daniel Dilling, MD, Loyola University Medical Center, Maywood, IL, USA

**FACULTY**

- Göran Dellgren, MD, PhD, Sahlgrenska University Hospital, Goteborg, Sweden  
 Daniel Dilling, MD, Loyola University Medical Center, Maywood, IL, USA  
 Allan R. Glanville, MBBS, MD, FRACP, St. Vincent's Hospital, Sydney, Australia  
 Kate Gould, FRCPath, Freeman Hospital, Newcastle Upon Tyne, United Kingdom  
 Mark Greer, MB Bch, Hannover Medical School, Hannover, Germany  
 Ramsey Hachem, MD, Washington University School of Medicine, St. Louis, MO, USA  
 Matthew Hartwig, MD, Duke University Medical Center, Durham, NC, USA  
 Marshall I. Hertz, MD, University of Minnesota, Minneapolis, MN, USA  
 David Hormuth, MD, St. Mary's Medical Group, Indianapolis, IN, USA  
 Lorriana Leard, MD, UCSF Medical Center, San Francisco, CA, USA  
 Erika D. Lease, MD, University of Washington, Seattle, WA, USA  
 Lianne G. Singer, MD, FRCPC, Toronto General Hospital, Toronto, ON, Canada  
 Laurie D. Snyder, MD, Duke University Medical Center, Durham, NC, USA  
 Sofya Tokman, MD, Norton Thoracic Institute, Phoenix, AZ, USA  
 Geert M. Verleden, MD, PhD, University Hospital Gasthuisberg, Leuven, Belgium  
 Robin Vos, MD, PhD, University Hospital Gasthuisberg, Leuven, Belgium

## COURSE SUMMARY

The Core Competency Course in Lung Transplantation will provide a detailed examination of the clinical practice of lung transplantation today. Through focused presentations with an emphasis on clinical practice, the course will provide historical context and cover candidate selection, donor management and organ procurement, post-transplant management and complications.

## PRACTICE GAPS

1. The technology available to support the clinical practice of lung transplantation has progressed significantly in the past seven years with advanced innovations available to support patients undergoing lung transplantation, to evaluate donor lungs, and to support patients in the immediate post-operative period. This course will address the application of these technologies in clinical practice.
2. Advanced understanding of the presentations of both acute and chronic allograft dysfunction has led to improved description and recognition of the signs of antibody mediated rejection, obstructive chronic lung allograft dysfunction and restrictive allograft syndrome that all specialists caring for lung transplant patients need to be able to recognize.
3. Clinicians involved in the care of lung transplant patients are seeking a comprehensive review of the available evidence and consensus opinion about the evaluation and management of lung transplant patients.

## TARGET AUDIENCE

While all members are invited to enroll, this course is primarily designed to benefit health care professionals who are in the early stages of their careers, are in training, are part of a new program, or who desire an update on the current state of the field. The information presented is intended to provide a strong foundation of the core competencies of lung transplantation, rather than as a detailed update for those who are already proficient in the field.

## EDUCATIONAL NEED

This course meets the practitioner's educational need for 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 lung transplantation.

## LEARNING OBJECTIVES

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

1. Explain in detail how to evaluate and list potential candidates for lung transplantation.
2. Discuss perioperative management of the donor, lung procurement and operative strategies including use of extracorporeal life support and ex-vivo lung perfusion.
3. Recognize the most common post-transplant complications, including immediate post-operative complications, acute and chronic allograft dysfunction, infections and other systemic complications.
4. Describe the immunosuppressive and preventative medication regimens utilized in lung transplant recipients, the rationale for their use and their potential complications.

## 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 *7.25 AMA PRA Category 1 Credits*.™ Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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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 ISHLT. Maximum of 7.25 contact hours.

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# SCIENTIFIC PROGRAM SCHEDULE

## 7:00 AM – 7:55 AM

REGISTRATION AND MORNING COFFEE

## 7:55 AM – 8:00 AM

### WELCOME AND OVERVIEW

**Lorriana Leard, MD**, UCSF Medical Center, San Francisco, CA, USA

## 8:00 AM – 9:00 AM

### SESSION 1: LUNG TRANSPLANTATION: GETTING FROM HERE TO THERE – HISTORY, CANDIDATE AND DONOR SELECTION

**Chair: Lorriana Leard, MD**

## 8:00 AM *History of Lung Transplantation*

**Marshall I. Hertz, MD**, University of Minnesota, Minneapolis, MN, USA

#### Teaching/Discussion Points:

1. Context and historic background for lung transplantation
2. Indications and expected outcomes in lung transplantation
3. Current challenges and limitations associated with lung transplantation
4. Utility of the ISHLT registry report and resources

## 8:15 AM *Lung Transplant Candidacy, Selection and Listing, Including Allocation Systems*

**Allan R. Glanville, MBBS, MD, FRACP**, St. Vincent's Hospital, Sydney, Australia

#### Teaching/Discussion Points

1. General and disease-specific considerations for lung transplant referral and evaluation
2. Appropriate and cost effective testing, cancer screening, vaccination, consultation and multi-disciplinary support of the lung transplant candidate
3. Importance of informed consent for transplantation, high risk donor acceptance and research participation
4. Current understanding of risks associated with anti-HLA antibodies, elevated panel reactive antibody screens, and desensitization therapies
5. Lung donor allocation systems around the world and their relationship to the urgent inpatient lung transplant evaluation

## 8:30 AM *Lung Allograft Donation and Procurement*

**Göran Dellgren, MD, PhD**, Sahlgrenska University Hospital, Goteborg, Sweden

#### Teaching/Discussion Points

1. Physiologic implications of donor brain death, basic pathophysiology and donor certification issues
2. Types of donors as relevant to lung transplantation (DBD, DCD)
3. Optimal donor management for lung allograft preservation
4. Procurement procedures and how to recognize possible adverse events
5. Options for allograft optimization including Ex Vivo Lung Perfusion (EVLV)

## 8:45 AM *Q&A with Panel*

## 9:00 AM – 10:00 AM

### SESSION 2: SURGICAL AND POST-OPERATIVE MANAGEMENT OF LUNG TRANSPLANT RECIPIENTS

**Chair: Göran Dellgren, MD, PhD**

## 9:00 AM *Surgical Options and Procedural Issues in Lung Transplantation*

**David Hormuth, MD**, St. Mary's Medical Group, Indianapolis, IN, USA

#### Teaching/Discussion Points

1. Principles and practice of size matching between donor and recipient
2. Options and choice of surgical incision
3. Technical aspects of surgical implantation including anastomotic techniques

## 9:15 AM *The Role of ECMO – To ECMO or not to ECMO, that is the Question!*

**Göran Dellgren, MD, PhD**, Sahlgrenska University Hospital, Goteborg, Sweden

#### Teaching/Discussion Points

1. Technical aspects of extracorporeal mechanical oxygenation (ECMO) and selection of peripheral vs. central, and veno-venous vs. venous-pulmonary vs. veno-arterial
2. Indications and contraindications for ECMO as a bridge to transplant
3. Indications for use of ECMO intraoperatively
4. Role of ECMO support after lung transplantation

**9:30 AM** *Surgical Complications and Post-OP Management after Lung Transplantation***Matthew Hartwig, MD**, Duke University Medical Center, Durham, NC, USA**Teaching/Discussion Points**

1. Differential diagnosis and treatment strategies for graft failure in the early postoperative period
2. Management of pleural complications after lung transplantation
3. Diagnostic and treatment strategies for bronchial, pulmonary artery and pulmonary venous complications
4. Potential cardiac complications (such as atrial fibrillation and pericardial effusions) and therapeutic approaches in post lung transplant recipients

**9:45 AM** *Q&A with Panel***10:00 AM – 10:30 AM**

COFFEE BREAK

**10:30 AM – 11:30 AM****SESSION 3: DEALING WITH REJECTION****Chair: Daniel Dilling, MD****10:30 AM** *Acute Cellular Rejection (ACR)***Mark Greer, MB Bch**, Hannover Medical School, Hannover, Germany**Teaching/Discussion Points**

1. Clinical presentation of ACR
2. Detection, evaluation and diagnosis, including the role for surveillance bronchoscopy
3. Pathologic grading system for ACR
4. Clinical Implications of ACR

**10:45 AM** *Antibody Mediated Rejection (AMR)***Ramsey Hachem, MD**, Washington University School of Medicine, St. Louis, MO, USA**Teaching/Discussion Points**

1. Consensus definitions for AMR
2. Potential monitoring systems for assessment of Donor Specific Antibodies, histopathology changes and C4D staining
3. Therapeutic challenges

**11:00 AM** *Chronic Lung Allograft Dysfunction (CLAD)***Geert M. Verleden, MD, PhD**, University Hospital Gasthuisberg, Leuven, Belgium**Teaching/Discussion Points**

1. Current understanding of CLAD
2. Clinical phenotypes of obstructive vs. restrictive chronic lung allograft dysfunction
3. Potential therapeutic approaches
4. Role for re-transplantation in patients with CLAD

**11:15 AM** *Q&A with Panel***11:30 AM – 1:00 PM**

LUNCH BREAK

*(a box lunch is included in the registration fee)***1:00 PM – 2:00 PM****SESSION 4: MANAGING THE MEDS – IMMUNOSUPPRESSION AND THE SYSTEMIC EFFECTS****Chair: Lorriana Leard, MD****1:00 PM** *Induction and Maintenance Immunosuppression***Daniel Dilling, MD**, Loyola University Medical Center, Maywood, Illinois, USA**Teaching/Discussion Points**

1. Options for induction therapy and potential complications
2. Evidence for the triple agent immunosuppression regimen that is used most commonly in lung transplant recipients
3. Classes of immunosuppression medication and the most common side effects
4. Monitoring of levels of the calcineurin inhibitors; appropriate range of levels
5. Genetic variants that may affect absorption and metabolism of immunosuppressive medications
6. Drug-drug interactions with the calcineurin inhibitors

**1:15 PM** *Hematologic Disorders Following Lung Transplant***Lorriana Leard, MD**, UCSF Medical Center, San Francisco, CA, USA**Teaching/Discussion Points**

1. Major causes of leukopenia post lung transplantation
2. Potential etiologies for thrombocytopenia
3. Reasons for anemia post lung transplantation
4. Treatment options for drug-induced cytopenias and thresholds for intervention

**1:30 PM** *Gastrointestinal Issues  
Post Lung Transplant***Matthew Hartwig, MD**, Duke University  
Medical Center, Durham, NC, USA**Teaching/Discussion Points**

1. Etiologies behind the common gastrointestinal symptoms patient have post lung transplantation
2. Different immunosuppressive and prophylactic medications that are often associated with gastrointestinal side effects and liver toxicity
3. Significance of GERD in lung transplant recipients and its association with BOS (chronic rejection)
4. Gastrointestinal issues that are important to Cystic Fibrosis patients who have undergone lung transplantation
5. Risk factors for bowel perforation and pneumatosis intestinalis post lung transplantation
6. Incidence, diagnosis and management of *C. Difficile* in post lung transplant patients

**1:45 PM** *Q&A with Panel***2:00 PM – 3:00 PM**  
**SESSION 5: BUGS AND THEIR DRUGS  
– PROPHYLAXIS, DIAGNOSIS AND  
MANAGEMENT OF INFECTIONS  
AFTER LUNG TRANSPLANT****Chair: Göran Dellgren, MD, PhD****2:00 PM** *Bacterial and Mycobacte-  
rial Infections in Lung  
Transplantation***Kate Gould, FRCPath**, Freeman  
Hospital, Newcastle Upon Tyne, United  
Kingdom**Teaching/Discussion Points**

1. Evaluation of immunity and pulmonary/non-pulmonary infections in the lung transplant candidate
2. Significance and evaluation of bacterial and mycobacterial infections in the lung donor
3. Impact of the surgical disruption of the normal pathways of innate lung immunity on the development of infection in the lung transplant recipient
4. Implications of donor derived infections

**2:15 PM** *Fungal Infections in Lung  
Transplant Recipients***Erika D. Lease, MD**, University of  
Washington, Seattle, WA, USA**Teaching/Discussion Points**

1. Role of antifungal prophylaxis, particularly in the context of geographic variance of endemic fungal infections
2. Epidemiology of aspergillus colonization vs. infection and review therapy
3. Emergence of more resistant fungal infections in solid organ transplant recipients
4. Prophylaxis and management of endemic fungal infections (*Coccidioides*, *Histoplasma*, etc.)

**2:30 PM** *Viral Pathogens from A  
to V (Adenovirus, CMV,  
EBV, HSV, RSV, and VZV)***Laurie D. Snyder, MD**, Duke University  
Medical Center, Durham, NC, USA**Teaching/Discussion Points**

1. CMV status, prophylaxis vs. preemptive therapy
2. CMV disease manifestations, therapeutic approach, resistance and prognosis
3. Significance of respiratory viral infections and their management
4. Management of viral infections such as Herpes Simplex Virus (HSV) and Varicella Zoster (VZV)

**2:45 PM** *Q&A with Panel***3:00 PM – 3:30 PM**  
COFFEE BREAK**3:30 PM – 4:30 PM**  
**SESSION 6: MALEVOLENT  
MALIGNANCIES****Chair: Daniel Dilling, MD****3:30 PM** *Skin Cancer in Lung  
Transplant Recipients***Sofya Tokman, MD**, Norton Thoracic  
Institute, Phoenix, AZ, USA**Teaching/Discussion Points**

1. Incidence of skin cancer in lung transplant recipients
2. Causes of increased risk for transplant patients
3. Skin cancer surveillance strategies and initial management
4. Treatment approaches specific to lung transplant recipients



**3:45 PM** *Post Transplant Lymphoproliferative Disease (PTLD) in Thoracic Transplantation*

**Laurie D. Snyder, MD**, Duke University Medical Center, Durham, NC, USA

**Teaching/Discussion Points**

1. Incidence of PTLT in lung transplant recipients
2. How to recognize and diagnose pulmonary and extrapulmonary presentations of PTLT
3. Role of Epstein Barr Virus (EBV) in PTLT
4. Priorities in management and first line treatment regimens

**4:00 PM** *Lung Cancer and Other Malignancies in Lung Transplant Recipients*

**Geert M. Verleden, MD, PhD**, University Hospital Gasthuisberg, Leuven, Belgium

**Teaching/Discussion Points**

1. Incidence of malignancies (that are not skin cancer or PTLT) in lung transplant recipients
2. Risk factors for certain types of malignancies and screening strategies for at risk patients (Cystic Fibrosis patients for GI malignancies, HPV positive patients for cervical/anal dysplasia)
3. Management strategies for lung cancers identified at time of transplant and lung cancers that develop in native lung
4. Management of immunosuppression regimens in patients with malignant disease

**4:15 PM** *Q&A with Panel*

**4:30 PM – 5:30 PM**  
**SESSION 7: LIFE AFTER TRANSPLANT**

**Chair: Lorriana Leard, MD**

**4:30 PM** *Management of the Metabolic Complications – Diabetes, Hypertension and Osteoporosis*

**Daniel Dilling, MD**, Loyola University Medical Center, Maywood, Illinois, USA

**Teaching/Discussion Points**

1. Metabolic consequences of prolonged immunosuppression therapy
2. Optimal management of diabetes mellitus following solid organ transplantation
3. Transplant specific issues regarding management of hypertension
4. Appropriate diagnostic and therapeutic management for osteoporosis

**4:45 PM** *Reproductive Health after Lung Transplantation – Contraception, Fertility and Pregnancy*

**Robin Vos, MD, PhD**, University Hospital Gasthuisberg, Leuven, Belgium

**Teaching/Discussion Points**

1. Implications of fertility and pregnancy in a lung transplant recipient, including risks to the transplant recipient, organ and fetus
2. Medical care considerations during pregnancy for lung transplant recipients
3. Literature regarding outcomes for pregnancies post-transplant
4. Family planning options for patients undergoing transplantation
5. Contraception recommendations and potential contraindications

**5:00 PM** *This is My Life – Outcomes and Quality of Life Post Transplant*

**Lianne G. Singer, MD, FRCPC**, Toronto General Hospital, Toronto, ON, Canada

**Teaching/Discussion Points**

1. Post-transplant outcomes
2. Health Related Quality of Life before and after lung transplant
3. Long term outcomes after lung transplantations
4. Determinants of Health Related Quality of Life (HRQOL) and potential interventions that could further improve HRQOL in lung transplant recipients

**5:15 PM** *Q&A with Panel*

**5:30 PM** *COURSE SUMMARY AND ASSESSMENT*

**Lorriana Leard, MD**, UCSF Medical Center, San Francisco, CA, USA

**5:45 PM** *ADJOURN*

**ISHLT ACADEMY  
MASTER CLASS  
IN MECHANICAL CIRCULATORY  
SUPPORT****TUESDAY, APRIL 10, 2018  
CLIO AND THALIE****8:00 AM – 1:00 PM****SCIENTIFIC PROGRAM CHAIRS****CHAIR:** Ulrich Jorde, MD, Montefiore Medical Center, Bronx, NY, USA**CO-CHAIR:** Ivan Netuka, MD, PhD, Institute for Clinical and Experimental Medicine, Prague, Czech Republic**FACULTY****Meredith Brisco, MD, MSCE**, Temple University, Philadelphia, PA, USA**Jerry Estep, MD**, The Methodist Hospital, Houston, TX, USA**Igor Gregoric, MD**, Center for Advanced Heart Failure, Houston, TX, USA**Finn Gustafsson, MD, PhD**, Rigshospitalet, Copenhagen, Denmark**JoAnn Lindenfeld, MD**, Vanderbilt University, Nashville, TN, USA**Bart Meyns, MD, PhD**, UZ Leuven, Leuven, Belgium**Snehal Patel, MD**, Montefiore Medical Center, Bronx, NY, USA**Mark Slaughter, MD**, University of Louisville, Louisville, KY, USA

## COURSE SUMMARY

The MCS Master Class is intended for members with higher levels of expertise (completed the core curriculum course on MCS and/or primary practice in MCS  $\geq$  5 years). The course setting will generate a highly interactive environment composed of a small group of individuals and 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 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. Structures to seamlessly communicate events occurring in and outside of the operating room to ensure optimal performance by providers in each setting are lacking. Surgeons, cardiologists and critical care practitioners often lack in depth insight of decision algorithms employed by their counterparts before, during and after device implant and explant procedures.
3. The outcome impact and preferred technique of ancillary procedures – such as valve repair/replacement or left atrial appendage occlusion – during LVAD implantation has not been established.
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. The use of extracorporeal membrane oxygenation is growing rapidly, both as a bridge to decision tool before LVAD/HTX and as a rescue bridge to recovery tool in the setting of primary graft failure, yet outcomes of patients transitioned from ECMO to LVAD or HTX remain poor and MCS based PGF treatment strategies have not been developed.



**TARGET AUDIENCE**

The target audience for this class includes cardiothoracic surgeons and cardiologists with MCS experience, specialists in heart failure care, allied health professionals with involvement in MCS patients, VAD coordinators, transplant coordinators, critical care specialists and heart transplant professionals.

**EDUCATIONAL NEED**

Mechanical circulatory support is a relatively new and rapidly evolving therapy for advanced congestive heart failure. Multiple device technologies are now in use for short and long term support and patient outcomes are highly dependent on in-depth understanding of device-induced changes in physiology as well as device specific serious adverse events. Multidisciplinary teams are an essential part of modern day mechanical circulatory support management. This class is designed to meet the target audience's need for an advanced learning opportunity that explores and seeks to address the unique clinical challenges faced by specialists and developing experts in the field of MCS for treatment of heart failure patients.

**LEARNING OBJECTIVES**

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

1. Identify the challenges during the diagnosis and management of complex cardiogenic shock patients and the potential benefits of a multidisciplinary team approach
2. Explain how to appropriately select patients for long-term MCS options with particular consideration of the need for/utility of ancillary procedures
3. Enhance understanding of the bidirectional impact of surgical and medical technique and management approaches
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
6. Acquire in depth understanding of ECMO placement, management, and explant in combination with LVAD or heart transplantation

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# SCIENTIFIC PROGRAM SCHEDULE

## 8:00 AM – 8:10 AM WELCOME AND OVERVIEW

**Ulrich Jorde, MD**, Montefiore Medical Center, Bronx, NY, USA

**Ivan Netuka, MD, PhD**, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

## 8:10 AM – 9:10 AM SMALL GROUP INTERACTIVE DISCUSSION A: ACUTE MCS FOR SHOCK

**Moderator: Finn Gustafsson, MD, PhD**

### 8:10 AM CASE SCENARIO A1: IABP to non-ECMO percutaneous MCS transition

**Finn Gustafsson, MD, PhD**, Rigshospitalet, Copenhagen, Denmark

#### Teaching/Discussion Points

- Challenges of assessing patients in profound cardiogenic shock:
  - Lack of a universally accepted classification system of cardiogenic shock and its influence on patient management
  - Important factors to consider at initial evaluation
  - LV failure, RV failure or both?
- Challenges in choosing the appropriate timing for MCS
- Challenges in choosing the appropriate MCS device
  - Theoretical advantages/disadvantages of each device
  - Existing clinical evidence
- SHOCK team approach to cardiogenic shock: patient benefits and logistical difficulties
- How do I wean a temporary MCS device? How do I know a short term wean will be durable?

## 8:40 AM CASE SCENARIO A2: ECMO

**Bart Meyns, MD, PhD**, UZ Leuven, Leuven, Belgium

#### Teaching/Discussion Points

- How do I differentiate components of right sided, left sided and peripheral contributors to the shock state?
- IABP – in whom does it (not) work
- Placement technique/cannula selection
- Preemptive or reactive distal perfusion/LV venting?
- Routine IABP placement/removal?
- ECMO wean – how to do it and when does it (not) work.

## 9:15 AM – 10:15 AM SMALL GROUP INTERACTIVE DISCUSSION B: BLEEDING AND THROMBOSIS

**Moderator: Jerry Estep, MD**

### 9:15 AM CASE SCENARIO B1: Recurrent GI Bleeding and Pump Thrombosis

**Snehal Patel, MD**, Montefiore Medical Center, Bronx, NY, USA

#### Teaching/Discussion Points

- Definition, risk factors, and the inevitable “conundrum”
- Pathophysiology of angioectasia development
- Treatment of recurrent GI bleeding – blocking vasculogenesis?
- The yin and yang of hemocompatibility: Absence of pump thrombosis eliminates the need for antithrombotic therapy in LVAD – or does it?
- Evidence-based approach for pump thrombosis: from prevention to treatment algorithm

## 9:45 AM CASE SCENARIO B2: Management of cerebrovascular hemorrhagic accidents

**Jerry Estep, MD**, The Methodist Hospital, Houston, TX, USA

#### Teaching/Discussion Points

- Epidemiology and risk factors for intracerebral hemorrhage (ICH) in the MCS population
- After the bleed, where to next? What are the immediate management priorities?
- Recommendations for anticoagulation in the setting of intracerebral hemorrhage
- Current evidence for alternate anticoagulation options available to minimize ICH
- Should we expect a poor outcome post ICH?
- Implications and management of neurologic events on treatment
- Is CVA management device specific?

## 10:15 AM – 10:45 AM COFFEE BREAK



**10:45 AM – 11:45 AM**  
**SMALL GROUP INTERACTIVE**  
**DISCUSSION C: ANCILLARY**  
**PROCEDURES IN LVAD****Moderator: Igor Gregoric, MD****10:45 AM CASE SCENARIO C1:**  
*A patient with atrial*  
*fibrillation and severe*  
*mitral regurgitation***Igor Gregoric, MD**, Center for Advanced  
Heart Failure, Houston, TX, USA**Teaching/Discussion Points**

1. Should the mitral valve be repaired/replaced?
2. Should the LAA be closed?
3. Practical considerations for ancillary mitral surgery/LAA closure

**11:15 AM CASE SCENARIO C2:**  
*A patient with prior*  
*sternotomy and severe*  
*tricuspid regurgitation***Meredith Brisco, MD, MSCE**, Temple  
University, Philadelphia, PA, USA**Teaching/Discussion Points**

1. Is minimally invasive preferred approach?
2. Should tricuspid valve be addressed?
3. Should pericardium be closed (completely)?

**11:50 AM – 12:50 PM**  
**SMALL GROUP INTERACTIVE**  
**DISCUSSION D: BAILOUT**  
**STRATEGIES FOR ECMO/BYPASS**  
**WEANING FAILURE****Moderator: JoAnn Lindenfeld, MD****11:50 AM CASE SCENARIO D1:**  
*ECMO weaning failure –*  
*transition to durable*  
*device or “high risk*  
*organ?”***JoAnn Lindenfeld, MD**, Vanderbilt  
University, Nashville, TN, USA**Teaching/Discussion Points**

1. Use of ECMO as bypass circuit
2. Transition to uni- or biventricular support?
3. Who can be successfully (!) transitioned
4. Surgical technique
5. Bailout high risk organ HTX

**12:20 PM CASE SCENARIO D2:**  
*Primary graft failure –*  
*ECMO?***Mark Slaughter, MD**, University of  
Louisville, Louisville, KY, USA**Teaching/Discussion Points**

1. Risk factors for PGF: VAD?
2. When to pull the trigger?
3. Central or peripheral ECMO – are you prepared?
4. Immunosuppression for PGF requiring MCS

**12:50 PM – 1:00 PM**  
**COURSE SUMMARY AND**  
**ASSESSMENT****Ulrich Jorde, MD**, Montefiore  
Medical Center, Bronx, NY, USA**Ivan Netuka, MD, PhD**, Institute for  
Clinical and Experimental Medicine,  
Prague, Czech Republic**1:00 PM ADJOURN**

ISHLT ACADEMY  
**MASTER CLASS**  
IN MECHANICAL CIRCULATORY  
SUPPORT

**TUESDAY, APRIL 10, 2018**  
CLIO AND THALIE

**2:00 PM – 7:00 PM**



**SCIENTIFIC PROGRAM CHAIRS**

**CHAIR:** Ulrich Jorde, MD, Montefiore Medical Center, Bronx, NY, USA

**CO-CHAIR:** Ivan Netuka, MD, PhD, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

**FACULTY**

**Meredith Brisco, MD, MSCE**, Temple University, Philadelphia, PA, USA

**Jerry Estep, MD**, The Methodist Hospital, Houston, TX, USA

**Igor Gregoric, MD**, Center for Advanced Heart Failure, Houston, TX, USA

**Finn Gustafsson, MD, PhD**, Rigshospitalet, Copenhagen, Denmark

**JoAnn Lindenfeld, MD**, Vanderbilt University, Nashville, TN, USA

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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. Structures to seamlessly communicate events occurring in and outside of the operating room to ensure optimal performance by providers in each setting are lacking. Surgeons, cardiologists and critical care practitioners often lack in depth insight of decision algorithms employed by their counterparts before, during and after device implant and explant procedures.
3. The outcome impact and preferred technique of ancillary procedures – such as valve repair/replacement or left atrial appendage occlusion – during LVAD implantation has not been established.
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. The use of extracorporeal membrane oxygenation is growing rapidly, both as a bridge to decision tool before LVAD/HTX and as a rescue bridge to recovery tool in the setting of primary graft failure, yet outcomes of patients transitioned from ECMO to LVAD or HTX remain poor and MCS based PGF treatment strategies have not been developed.



**TARGET AUDIENCE**

The target audience for this class includes cardiothoracic surgeons and cardiologists with MCS experience, specialists in heart failure care, allied health professionals with involvement in MCS patients, VAD coordinators, transplant coordinators, critical care specialists and heart transplant professionals.

**EDUCATIONAL NEED**

Mechanical circulatory support is a relatively new and rapidly evolving therapy for advanced congestive heart failure. Multiple device technologies are now in use for short and long term support and patient outcomes are highly dependent on in-depth understanding of device-induced changes in physiology as well as device specific serious adverse events. Multidisciplinary teams are an essential part of modern day mechanical circulatory support management. This class is designed to meet the target audience's need for an advanced learning opportunity that explores and seeks to address the unique clinical challenges faced by specialists and developing experts in the field of MCS for treatment of heart failure patients.

**LEARNING OBJECTIVES**

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

1. Identify the challenges during the diagnosis and management of complex cardiogenic shock patients and the potential benefits of a multidisciplinary team approach
2. Explain how to appropriately select patients for long-term MCS options with particular consideration of the need for/utility of ancillary procedures
3. Enhance understanding of the bidirectional impact of surgical and medical technique and management approaches
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
6. Acquire in depth understanding of ECMO placement, management, and explant in combination with LVAD or heart transplantation

**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 ISHLT. Maximum of 4.25 contact hours.

**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

## 2:00 PM – 2:10 PM WELCOME AND OVERVIEW

**Ulrich Jorde, MD**, Montefiore Medical Center, Bronx, NY, USA

**Ivan Netuka, MD, PhD**, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

## 2:10 PM – 3:10 PM SMALL GROUP INTERACTIVE DISCUSSION A: ACUTE MCS FOR SHOCK

**Moderator: Finn Gustafsson, MD, PhD**

### 2:10 PM CASE SCENARIO A1: IABP to non-ECMO percutaneous MCS transition

**Finn Gustafsson, MD, PhD**, Rigshospitalet, Copenhagen, Denmark

#### Teaching/Discussion Points

6. Challenges of assessing patients in profound cardiogenic shock:
  - a. Lack of a universally accepted classification system of cardiogenic shock and its influence on patient management
  - b. Important factors to consider at initial evaluation
  - c. LV failure, RV failure or both?
7. Challenges in choosing the appropriate timing for MCS
8. Challenges in choosing the appropriate MCS device
  - a. Theoretical advantages/disadvantages of each device
  - b. Existing clinical evidence
9. SHOCK team approach to cardiogenic shock: patient benefits and logistical difficulties
10. How do I wean a temporary MCS device? How do I know a short term wean will be durable?

## 2:40 PM CASE SCENARIO A2: ECMO

**Bart Meyns, MD, PhD**, UZ Leuven, Leuven, Belgium

#### Teaching/Discussion Points

7. How do I differentiate components of right sided, left sided and peripheral contributors to the shock state?
8. IABP – in whom does it (not) work
9. Placement technique/cannula selection
10. Preemptive or reactive distal perfusion/LV venting?
11. Routine IABP placement/removal?
12. ECMO wean – how to do it and when does it (not) work.

## 3:15 PM – 4:15 PM SMALL GROUP INTERACTIVE DISCUSSION B: BLEEDING AND THROMBOSIS

**Moderator: Jerry Estep, MD**

### 3:15 PM CASE SCENARIO B1: Recurrent GI Bleeding and Pump Thrombosis

**Snehal Patel, MD**, Montefiore Medical Center, Bronx, NY, USA

#### Teaching/Discussion Points

6. Definition, risk factors, and the inevitable “conundrum”
7. Pathophysiology of angioectasia development
8. Treatment of recurrent GI bleeding – blocking vasculogenesis?
9. The yin and yang of hemocompatibility: Absence of pump thrombosis eliminates the need for antithrombotic therapy in LVAD – or does it?
10. Evidence-based approach for pump thrombosis: from prevention to treatment algorithm

## 3:45 PM CASE SCENARIO B2: Management of cerebrovascular hemorrhagic accidents

**Jerry Estep, MD**, The Methodist Hospital, Houston, TX, USA

#### Teaching/Discussion Points

8. Epidemiology and risk factors for intracerebral hemorrhage (ICH) in the MCS population
9. After the bleed, where to next? What are the immediate management priorities?
10. Recommendations for anticoagulation in the setting of intracerebral hemorrhage
11. Current evidence for alternate anticoagulation options available to minimize ICH
12. Should we expect a poor outcome post ICH?
13. Implications and management of neurologic events on treatment
14. Is CVA management device specific?

## 4:15 PM – 4:45 PM COFFEE BREAK



**4:45 PM – 5:45 PM**  
**SMALL GROUP INTERACTIVE**  
**DISCUSSION C: ANCILLARY**  
**PROCEDURES IN LVAD**

**Moderator: Igor Gregoric, MD**

**4:45 PM CASE SCENARIO C1:**  
*A patient with atrial  
 fibrillation and severe  
 mitral regurgitation*

**Igor Gregoric, MD**, Center for Advanced  
 Heart Failure, Houston, TX, USA

**Teaching/Discussion Points**

4. Should the mitral valve be repaired/replaced?
5. Should the LAA be closed?
6. Practical considerations for ancillary mitral surgery/LAA closure

**5:15 PM CASE SCENARIO C2:**  
*A patient with prior  
 sternotomy and severe  
 tricuspid regurgitation*

**Meredith Brisco, MD, MSCE**, Temple  
 University, Philadelphia, PA, USA

**Teaching/Discussion Points**

4. Is minimally invasive preferred approach?
5. Should tricuspid valve be addressed?
6. Should pericardium be closed (completely)?

**5:50 PM – 6:50 PM**  
**SMALL GROUP INTERACTIVE**  
**DISCUSSION D: BAILOUT**  
**STRATEGIES FOR ECMO/BYPASS**  
**WEANING FAILURE**

**Moderator: JoAnn Lindenfeld, MD**

**5:50 PM CASE SCENARIO D1:**  
*ECMO weaning failure –  
 transition to durable  
 device or “high risk  
 organ”?*

**JoAnn Lindenfeld, MD**, Vanderbilt  
 University, Nashville, TN, USA

**Teaching/Discussion Points**

6. Use of ECMO as bypass circuit
7. Transition to uni – or biventricular support?
8. Who can be successfully (!) transitioned
9. Surgical technique
10. Bailout high risk organ HTX

**6:20 PM CASE SCENARIO D2:**  
*Primary graft failure –  
 ECMO?*

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

**Teaching/Discussion Points**

5. Risk factors for PGF: VAD?
6. When to pull the trigger?
7. Central or peripheral ECMO – are you prepared?
8. Immunosuppression for PGF requiring MCS

**6:50 PM – 7:00 PM**  
**COURSE SUMMARY AND**  
**ASSESSMENT**

**Ulrich Jorde, MD**, Montefiore  
 Medical Center, Bronx, NY, USA

**Ivan Netuka, MD, PhD**, Institute for  
 Clinical and Experimental Medicine,  
 Prague, Czech Republic

**7:00 PM ADJOURN**

ISHLT ACADEMY  
**MASTER CLASS**  
IN CHRONIC THROMBOEMBOLIC  
PULMONARY HYPERTENSION

**TUESDAY, APRIL 10, 2018**  
**ERATO AND URANIE**

**2:00 PM – 7:00 PM**



## **SCIENTIFIC PROGRAM CHAIRS**

**CO-CHAIRS:** **Mardi Gomberg-Maitland, MD, MSc**, Inova Heart and Vascular Institute, Falls Church, VA, USA  
**David Jenkins, FRCS**, Papworth Hospital, Cambridge, United Kingdom

## **FACULTY**

**William Auger, MD**, UCSD Medical Center, San Diego, CA, USA  
**Raymond Benza, MD**, Allegheny General Hospital, Pittsburgh, PA, USA  
**John Cannon, FRCP**, Papworth Hospital, Cambridge, United Kingdom  
**Duane Davis, MD, MBA**, Florida Hospital, Orlando, FL, USA  
**Marion Delcroix, MD, PhD**, University Hospital Leuven, Leuven, Belgium  
**Marc De Perrot, MD**, Toronto General Hospital, Toronto, ON, Canada  
**Elie Fadel, MD**, Hospital Marie Lannelongue, La Plessis-Robinson, France  
**Deepa Gopalan, MD**, Papworth Hospital, Cambridge, United Kingdom  
**Irene Lang, MD**, Medical University of Vienna, Vienna, Austria  
**Michael Madani, MD**, UCSD Medical Center, San Diego, CA, USA  
**Takeshi Ogo, MD**, National Cerebral and Cardiovascular Center, Osaka, Japan  
**Joanna Pepke-Zaba, PhD, FRCP**, Papworth Hospital NHS Trust, Cambridge, United Kingdom

## COURSE SUMMARY

The four topics covered in this Chronic Thromboembolic Pulmonary Hypertension (CTEPH) Master Class include diagnostic challenges/modalities utilized for CTEPH, management strategies of the complex CTEPH patient, interventional approaches and mechanical support, and surgery for CTEPH. The topics cover the major aspects of CTEPH and highlight the significant differences in the diagnosis and management of these entities. Utilizing the concept of “convergent discussion” and audience response system techniques, faculty moderators will use complex clinical situations and controversial statements during practical case presentations in order to direct active audience participation. The aim is to provide specific insights based on current practice gaps and achieve selected learning objectives.

## PRACTICE GAPS

1. The multidisciplinary team approach is needed to properly diagnose, assess, and determine operability for CTEPH. The correct interpretation of imaging to select patients who will get a good technical response is not always easy to determine. Therefore, clinical decisions and decisions whether or not to provide operative interventions need to be made with a deep understanding of the pathophysiology of the disease. The established risks and potential benefits that CTEPH treatment may offer, including surgery in this setting, are discussed.
2. The current evidence base regarding the use of vasodilator drugs, instead of or in addition to surgery in technically operable patients, is in evolution. The general timing and use of these pharmaceutical agents is controversial. The criteria for decision making, including clot burden, anatomy of obstruction and the individual patients’ co-morbidities, are also controversial.
3. Although the interventionalists have improved their techniques and understanding of balloon pulmonary angioplasty (BPA), there is still uncertainty surrounding the selection of patients for surgery versus performing BPA versus medical therapy. There is also uncertainty as to the best approach in “segmental CTEPH disease.” This is an area that warrants further studies and discussions by a multidisciplinary group of experts.
4. While surgical techniques for CTEPH patients have improved, advanced endarterectomy techniques may be utilized without a clear standardization of approach. A discussion of the risks/benefits of these techniques is required. Understanding these newer approaches will also help teams to determine whether the best approach is medical, surgical, interventional or a hybrid approach. The peri-operative care techniques and coordination are integral to surgical success but may not be commonly standardized or discussed in detail. This creates a clear need to focus on this aspect of the procedure.



**TARGET AUDIENCE**

The Chronic Thromboembolic Pulmonary Hypertension (CTEPH) Master Class is an ISHLT educational event intended for specialists with advanced levels of expertise. Ideally, participants will have completed the core competency course on Pulmonary Hypertension (PH), have primary practice in thoracic, cardiothoracic surgery or medical treatment of PH  $\geq$  5 years and/or have managed patients with one or more of the topics intended for discussion. This can include pulmonologists/respirologists, cardiologists, thoracic surgeons, cardiothoracic surgeons, interventional radiologists, interventional cardiologists, nurses, physician assistants and allied health professionals with experience in CTEPH. The course is mainly intended for health care professionals whose primary practice includes care of CTEPH patients and providers who are developing programs for medical, surgical or interventional treatment in this field.

**EDUCATIONAL NEED**

The field of chronic thromboembolic disease is a changing landscape with increasing evidence for new therapies. Aided by improved diagnostic tools, surgical techniques, the use of interventional approaches and the approval of medical therapies, treatment of the disease also requires a multi-disciplinary team approach and training to understand contemporary decision making. This class is designed to meet the target audience's need for an advanced learning opportunity that explores and seeks to address the unique clinical challenges faced by those caring for patients with CTEPH.

**LEARNING OBJECTIVES**

After completion of this Master Class, the participant will have improved competence and professional performance in their ability to:

1. Understand the imaging features that indicate operability in CTEPH patients
2. Differentiate low and high risk scenarios for CTEPH interventions
3. Appreciate the evidence gaps relating to the use of vasodilator drugs in CTEPH
4. Acknowledge the overlap in the use of BPA and PEA in patients with segmental CTEPH disease dependent on institutional experience and hence the uncertainty in the current guidelines
5. Understand the advanced technical endarterectomy procedure and care of patients with perioperative complications

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# SCIENTIFIC PROGRAM SCHEDULE

**2:00 PM – 2:10 PM**

## WELCOME AND OVERVIEW

**Mardi Gomberg-Maitland, MD, MSc**, Inova Heart and Vascular Institute, Falls Church, VA, USA

**David Jenkins, FRCS**, Papworth Hospital, Cambridge, United Kingdom

**2:10 PM – 3:10 PM**

## SMALL GROUP INTERACTIVE DISCUSSION A: DIAGNOSIS AND ASSESSMENT OF OPERABILITY IN CTEPH

**Moderator: Raymond Benza, MD**

**2:10 PM CASE SCENARIO A1:** *'Proximal' CTEPH with expected good response from PEA*

**Deepa Gopalan, MD**, Papworth Hospital, Cambridge, United Kingdom

### Teaching/Discussion Points

1. Imaging features indicative of operability (V/Q, CTPA, PA gram, MRI)
2. Potential contra-indications to surgery
3. Co-morbidity that may increase risk or reduce benefit
4. Technical operability vs. candidacy

**2:40 PM CASE SCENARIO A2:** *Mixed pattern CTEPH with likely residual PH after PEA*

**William Auger, MD**, UCSD Medical Center, San Diego, CA, USA

### Teaching/Discussion Points

1. Balance of hemodynamic findings against segmental obstruction
2. Decision making risk vs benefit relative to other therapies
3. Predicting response and risk of residual PH post PEA

**3:15 PM – 4:15 PM**

## SMALL GROUP INTERACTIVE DISCUSSION B: USE OF VASODILATOR DRUGS PRE- AND POST-PEA

**Moderator: Joanna Pepke-Zaba, PhD, FRCS**

**3:15 PM CASE SCENARIO B1:** *Patient with severe PH 'bridged' with vasodilators prior to PEA*

**Marion Delcroix, MD, PhD**, University Hospital Leuven, Leuven, Belgium

### Teaching/Discussion Points

1. Evidence base for vasodilator drugs in CTEPH
2. Risks/benefits of pre-operative treatment in technically operable patients
3. Need for a RCT

**3:45 PM CASE SCENARIO B2:** *Patient with residual PH post-PEA*

**John Cannon, FRCP**, Papworth Hospital, Cambridge, United Kingdom

### Teaching/Discussion Points

1. Definition of PH post-PEA
2. Incidence of the problem and prognostic implications
3. Evidence for treatment (CHEST1 study)

**4:15 PM – 4:45 PM**

## COFFEE BREAK

**4:45 PM – 5:45 PM**

## SMALL GROUP INTERACTIVE DISCUSSION C: SELECTION OF PATIENTS TO BENEFIT FROM BPA

**Moderator: Duane Davis, MD, MBA**

**4:45 PM CASE SCENARIO C1:** *Typical patient with sub-segmental disease with expected good outcome from BPA*

**Irene Lang, MD**, Medical University of Vienna, Vienna, Austria

### Teaching/Discussion Points

1. Features predicting good outcome
2. Starting a program
3. Current optimal technique
4. Decisions on order of treatment and number of sessions

**5:15 PM CASE SCENARIO C2:** *Higher risk patient with less predictable result from BPA*

**Takeshi Ogo, MD**, National Cerebral and Cardiovascular Center, Osaka, Japan

### Teaching/Discussion Points

1. Features suggesting complexity, above average risk
2. How many lesions to treat in a session
3. Dealing with complications



**5:50 PM – 6:50 PM**  
**SMALL GROUP INTERACTIVE**  
**DISCUSSION D: ADVANCED**  
**PEA TECHNIQUES AND PERI-**  
**OPERATIVE CARE**

**Moderator: Michael Madani, MD**

**5:50 PM** *CASE SCENARIO D1:*  
*Successful surgery in a*  
*patient with segmental/*  
*sub-segmental disease*

**Marc De Perrot, MD**, Toronto General  
Hospital, Toronto, ON, Canada

**Teaching/Discussion Points**

1. New classification of disease by level
2. Tricks for developing and progressing a distal dissection plane
3. Knowing limits of operability, when to say “no”

**6:20 PM** *CASE SCENARIO D2:*  
*Complexities of post-*  
*operative care, dealing*  
*with complications and*  
*residual PH in the early*  
*post-operative period*

**Elie Fadel, MD**, Hospital Marie  
Lannelongue, La Plessis-Robinson,  
France

**Teaching/Discussion Points**

1. Standard post-operative care to minimize complications
2. Treatment of residual PH, airway bleeding, reperfusion injury
3. Use of salvage ECMO and post-PEA BPA and lung transplantation

**6:50 PM – 7:00 PM**  
**COURSE SUMMARY AND**  
**ASSESSMENT**

**Mardi Gomberg-Maitland, MD, MSc**,  
Inova Heart and Vascular Institute,  
Falls Church, VA, USA

**David Jenkins, FRCS**, Papworth  
Hospital, Cambridge, United Kingdom

**7:00 PM** *ADJOURN*

## REGISTRATION POLICIES/INSTRUCTIONS

FOR COMPLETING THE REGISTRATION FORM

Thirty-Eighth Annual Meeting  
and Scientific Sessions • April 11-14, 2018 • Nice, France

1. The Annual Meeting registration fee includes attendance at all scientific sessions, exhibit hall receptions, and coffee breaks.
2. The non-member registration fee includes membership in the Society from the date of registration through December 31, 2018. 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 12, 2018 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 Justin Hickman: [justin.hickman@ishlt.org](mailto:justin.hickman@ishlt.org). For written cancellation notices **RECEIVED by February 22, 2018**, a full refund of the scientific session fees paid will be given, less a \$90 (VAT included) handling fee. **For written cancellation notices received after February 22, 2018, no refund of any fees will be given. All cancellation refunds will be issued approximately 15 business 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 providers. **Individuals who meet this definition MAY NOT register under any other category.**
8. **The Allied Health/Non-Physician rate** is available to 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 and qualifying individuals 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 Student/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) and qualifying individuals should select this rate. Non-members choosing this rate must include with their registration forms (or upload if registering on-line) 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 12, 2018. 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: [leeann.mills@ishlt.org](mailto:leeann.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 12, 2018**. After this date, all name changes must be made on-site. There will be a \$30 (VAT included) fee for each name change/replacement.
14. **Age Restriction:** Children under 19 are not permitted to attend any of the ISHLT events taking place in the Acropolis Congress Center. Guest registration is not available to anyone under 19. Children under 19 who are attending the President's Cocktail Reception must be accompanied by an adult at all times. Children over 11 who wish to attend the President's cocktail Reception must purchase a ticket.
15. **Request of Revised Invoice for VAT Purposes:** There is a \$30 (VAT included) fee for each revised invoice requested for VAT purposes. The fee must be paid prior to receiving the revised invoice, credit card is the preferred payment method.

## QUESTIONS?

CALL THE ISHLT

HEADQUARTERS

OFFICE AT

972-490-9495

EMAIL US AT

[MEETINGS@ISHLT.ORG](mailto:MEETINGS@ISHLT.ORG)

OR FAX US AT

972-490-9499.

INTERNATIONAL SOCIETY FOR HEART AND LUNG TRANSPLANTATION

# REGISTRATION FORM

FORMS THAT ARE FAXED OR MAILED MUST BE LEGIBLE IN ORDER FOR US TO PROCESS.

## Thirty-Eighth Annual Meeting and Scientific Sessions ISHLT Academy Courses • April 11-14, 2018 • Nice, France

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

Please see page 102 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.): \_\_\_\_\_

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 indicate if address is home or business (MANDATORY): Home:  Business:

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Post Code: \_\_\_\_\_ Country: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

**(Mandatory:** Confirmation will be sent to this email only)

**DELEGATE BADGE:**

(PLEASE PRINT CLEARLY BELOW THE DETAILS FOR YOUR BADGE)

FIRST \_\_\_\_\_ LAST \_\_\_\_\_, DEGREE \_\_\_\_\_

INSTITUTION / ORGANIZATION \_\_\_\_\_

CITY \_\_\_\_\_ STATE (if applicable) \_\_\_\_\_

COUNTRY \_\_\_\_\_

**PROFESSIONAL CLASSIFICATION:** (check one box only) **Mandatory that you choose one**

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Anesthesiology                       | <input type="checkbox"/> Pathology                    | <input type="checkbox"/> Pulmonology             |
| <input type="checkbox"/> Cardiac Surgery                      | <input type="checkbox"/> Pediatric Cardiology         | <input type="checkbox"/> Research                |
| <input type="checkbox"/> Cardiology                           | <input type="checkbox"/> Pediatric Pulmonology        | <input type="checkbox"/> Social Science          |
| <input type="checkbox"/> Cardio-Thoracic/<br>Vascular Surgery | <input type="checkbox"/> Pediatric Transplant Surgery | <input type="checkbox"/> Thoracic Surgery        |
| <input type="checkbox"/> Immunology                           | <input type="checkbox"/> Perfusion                    | <input type="checkbox"/> Transplant Coordination |
| <input type="checkbox"/> Infectious Diseases                  | <input type="checkbox"/> Pharmacy/Pharmacology        | <input type="checkbox"/> VAD Coordinator         |
| <input type="checkbox"/> Nursing                              | <input type="checkbox"/> Physician Assistant          | <input type="checkbox"/> Other: _____            |

**All Fees include 20% VAT, Payments must be made in US funds only.**

**ANNUAL MEETING SCIENTIFIC SESSIONS:**

	Received on or before February 22	Received between February 23-March 12***	TOTAL
Industry Member**	\$ 1120	\$ 1270	\$ _____
Industry Non-Member**	\$ 1455	\$ 1605	\$ _____

\*\*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.

Physician/Surgeon Member	\$ 875	\$ 1025	\$ _____
Physician/Surgeon Non-Member*	\$ 1210	\$ 1360	\$ _____
Allied Health/Non-Physician Member	\$ 510	\$ 660	\$ _____
Allied Health/Non-Physician Non-Member*	\$ 845	\$ 995	\$ _____
Student/Trainee Member	\$ 390	\$ 540	\$ _____
Student/Trainee Non-Member*	\$ 555	\$ 705	\$ _____

\*Includes membership in the Society through December 31, 2018 with completed membership application.

Please check here if you wish to decline this membership offer (no refund or reduction of fee if membership declined)

**GUEST AND SOCIAL ACTIVITIES REGISTRATION:**

Guest without President's Cocktail Reception+	\$ 55	\$ 55	\$ _____
Guest with President's Cocktail Reception+ (must be purchased in advance, will not be sold on-site.)	\$ 110	\$ 110	\$ _____
Guest Name for Badge: _____			

+ Guest registration 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.

**PRESIDENT'S COCKTAIL RECEPTION:**

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

Industry Registrant	\$ 110	\$ 110	\$ _____
Physician/Surgeon/Registrant	\$ 55	\$ 55	\$ _____
Student/Trainee/Allied Health Registrant	\$ 28	\$ 28	\$ _____
Additional Guest Reception Ticket	\$ 55	\$ 55	\$ _____

(Please see instruction #14 regarding age restrictions for children.)

**SUBTOTAL SIDE A** (This side of Form) \$ \_\_\_\_\_



# ISHLT REGISTRATION FORM SIDE B

SUBTOTAL SIDE A \$ \_\_\_\_\_

## ISHLT ACADEMY COURSES:

(Please check box for the Academy you wish to register for;  
Core Competency Courses include a box lunch.)

	Received on or before February 22	Received between February 23-March 12***	TOTAL
<input type="checkbox"/> Core Competencies in MCS Tuesday, April 10 (full day)			
<input type="checkbox"/> Core Competencies in LTX Tuesday, April 10 (full day)			
<input type="checkbox"/> Core Competencies in HFTX Tuesday, April 10 (full day)			
<input type="checkbox"/> Master Class in CTEPH Tuesday, April 10 (2 pm – 7 pm)			
<input type="checkbox"/> Master Class in MCS (morning) Tuesday, April 10 (8 am – 1 pm)			
<input type="checkbox"/> Master Class in MCS (afternoon repeat) Tuesday, April 10 (2 pm – 7 pm)			
Core or Masters Academy Course (ISHLT Member):	\$ 275	\$ 325	\$ _____
Core or Masters Academy Course (Non-member):	\$ 440	\$ 490	\$ _____

## Registration for the Annual Meeting is not required to register for an Academy.

\*\*\* Registrations postmarked after March 12 will not be processed before the meeting and therefore these registrants must go to on-site registration desk to register. Registration fees for forms received after March 12 will be considered on-site registrations and are subject to the on-site registration fees which are \$300 more than the registration fees with the February 22 deadline. 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 received after March 12 and for on-site academy registration are \$150 more than the early bird registration fees. Academy courses may sell out in advance. On-site registration for academies may not be available.

## 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	\$ _____
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TOTAL DUE AND ENCLOSED (SIDE A and B): \$ \_\_\_\_\_

## 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: \_\_\_\_\_ MANDATORY Card Holder Billing Zip/Postal Code: \_\_\_\_\_ MANDATORY

Card Holder Billing Street Address \_\_\_\_\_ MANDATORY

Payments made by Institutions/Companies/Organizations may be submitted to the French tax authorities for VAT reimbursement. Please indicate if this payment is being made by (Mandatory):

- Individual  
 Institution/Company/Organization

If Company/Institution/Organization is paying for the registration, please enter the company/institution/organization details:

TAX ID #/VAT # \_\_\_\_\_

Company/Institution/Organization Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Postcode \_\_\_\_\_ Country \_\_\_\_\_

The invoice showing your payment including VAT shall be issued by:  
VMC, 1 Rond-point de l'Europe, 92250 La Garenne-Colombes/France; FR VAT number: FR75523098614.  
The price in Euro will be calculated by using the exchange rate published by European Central Bank the day of the invoicing.

SEND THIS FORM AND PAYMENT (US DOLLARS ONLY) IN FULL TO:

ISHLT Registration • 14673 Midway Road, Suite 200 • Addison, TX 75001 • or fax to 972-490-9499



# ISHLT APRIL 2018

## Nice · France



**GLACES**  
Présentation en pot ou en cornet

1 parfum	2.20
2 parfums	3.20
3 parfums	4.40

Smoothies Milk Shake  
ou Chauds

Sablés  
Amande

Boule  
Coco & Amande

Sablés  
Caramel

Pou  
Pomme Amande

glaces  
36





**THIRTY-EIGHTH  
ANNUAL MEETING AND SCIENTIFIC SESSIONS  
NICE, FRANCE  
April 11-14, 2018**



**INTERNATIONAL SOCIETY FOR HEART AND LUNG TRANSPLANTATION  
14673 Midway Road, Suite 200, Addison, Texas 75001**