

**ISHLT ACADEMY  
MASTER CLASS IN PULMONARY HYPERTENSION**

**18 April, 2023 | 1:00 – 6:00 p.m. MDT | Denver, CO USA**

**ACADEMY CHAIRS**

Colin Church, BSC(Hons), PhD, FRCP, Golden Jubilee National Hospital, Glasgow, Scotland  
Marc Simon, MD, MS, University of California San Francisco, San Francisco, CA USA

**Faculty**

William Auger, MD, University of California, San Diego, San Diego, CA USA  
Roberto Badagliacca, MD, PhD, University of Rome Sapienza, Rome, Italy  
Raymond Benza, MD, FACC, The Ohio State University, Columbus, OH USA  
Michele D'Alto, MD, PhD, Monaldi Hospital, Naples, Italy  
Elie Fadel, MD, Hospital Marie Lannelongue, Le Plessis-Robinson, France  
Nicholas Kolaitis, MD, University of California San Francisco, San Francisco, CA USA  
Steven Nathan, MD, Inova Fairfax Hospital, Falls Church, VA USA  
Joanna Pepke-Zaba, PhD, FRCP, Royal Papworth Hospital NHS Foundation Trust, Cambridge, UK  
Sandeep Sahay, MD, MSc, Houston, Methodist Hospital, Houston, TX USA  
Sasiharan Sithamparanathan, MBBS, Auckland City Hospital, Auckland, New Zealand  
Helen Whitford, MBBS, FRACP, The Alfred Hospital, Melbourne, VIC, Australia

**Course Description**

The Pulmonary Hypertension Master Academy will be focused on the challenges of treating patients with PH. Content is designed to cover patients who may have pulmonary arterial disease, PH in the context of heart failure or advanced lung disease and with chronic thromboembolic pulmonary disease. Topics will include the following:

- Challenges of the management of advanced PAH including idiopathic PAH with acute severe deterioration and RV failure and PAH with suboptimal control on double combination therapy.
- The challenges in PH due to left heart disease including PH due to heart failure with reduced ejection fraction and PH due to heart failure with preserved ejection fraction.
- PH due to advanced lung disease including PH due to combined emphysema and Pulmonary Fibrosis and PH in the context of idiopathic Interstitial Pneumonia.
- Management of patients with Chronic Thromboembolic Pulmonary Disease (CTEPD): 1) How to treat patients with mainly proximal/mid subsegmental distribution of the chronic clots; 2) And with discordant diagnostic results between imaging of the chronic clots and haemodynamic variables.

**Educational Goals**

Pulmonary hypertension (PH) is a life-threatening condition commonly encountered in patients with advanced heart and lung disease. Despite significant advances in the field, patients with PH are complex and their management can be challenging. Initial recognition of the PH problem and delay in diagnosis remains an issue and this contributes to the poor long-term survival of these patients. Misidentification of the causes and misclassification of PH leads to poor survival rates and inappropriate treatment. In addition, recent important updates to guidelines for diagnosis and treatment will be addressed throughout the course.

### **Target Audience**

This course is intended for members with higher levels of expertise (completed the core curriculum course on PH and/or practice in the treatment of PH for 5 years or more). Pulmonologists, cardiologists, cardiothoracic surgeons, nurse practitioners, nurses, physician assistants and allied health professionals with experience in PH would all benefit from the course. While all members are invited to enroll, Master Classes are primarily designed to be of benefit for health care professionals who are beyond the training stages of their careers. This may be professionals who are seeking additional proficiencies, who wish to understand current areas of controversy, or who desire an update on the current advanced topics of the field. The information presented is intended to provide insights beyond core competencies established in the specialty. This is a forum to allow discussion on Management dilemmas and areas of unmet need in pulmonary vascular medicine, led by an expert faculty.

### **Learning Objectives**

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

1. Understand the management of patients with advanced PAH including right heart failure.
2. Identify the challenges in the spectrum of Pulmonary Hypertension (PH) due to left heart disease since it is an increasingly recognized complication.
3. Understand PH due to advanced lung disease and the current treatment strategies.
4. Understand current diagnostic and management strategies in Chronic Thromboembolic Pulmonary Disease (CTEPD) without PH and with PH (CTEPH).

## SCIENTIFIC PROGRAM SCHEDULE

**1:00 – 1:05 p.m.**

### **WELCOME AND OVERVIEW**

Colin Church, BSc(Hons), PhD, FRCP, Golden Jubilee National Hospital, Glasgow, Scotland  
Marc Simon, MD, MS, University of California San Francisco, San Francisco, CA USA

**1:05 – 2:10 p.m.**

### **SESSION 1: ADVANCED PAH: CHALLENGES IN MANAGEMENT**

**Moderator:** Helen Whitford, MBBS, FRACP, The Alfred Hospital, Melbourne, VIC, Australia

**1:05 p.m.**

#### ***Summary of the State of the Science of the Session Topic and Its Most Pressing Challenges***

Helen Whitford, MBBS, FRACP, The Alfred Hospital, Melbourne, VIC, Australia

**1:10 p.m.**

#### ***CASE SCENARIO 1A: Idiopathic PAH with Acute Severe Deterioration***

Ioana Preston, MD, Tufts Medical Center, Boston, MA USA

#### ***Teaching/Discussion Points***

1. Understanding the potential causes of acute deterioration
2. Understanding of optimal management strategies for RV failure (diuretics, inotropes, pressors)
3. Discuss the role of atrial septostomy and ECMO.
  - Bridge to Transplant
  - Bridge to Recovery
4. Timing of lung transplantation and factors impacting outcome.
5. Future of PH/remote monitoring, digital health.

**1:40 p.m.**

#### ***CASE SCENARIO 1B: PAH with Suboptimal Control on Double Combination Therapy: What Next?***

Sasiharan Sithamparanathan, MBBS, Auckland City Hospital, Auckland, New Zealand

#### ***Teaching/Discussion Points***

1. Utilization of optimal therapy lags behind guideline recommendations.
2. Recognition of disease progression requires sophisticated integration of clinical, imaging and hemodynamic parameters that is insufficiently employed.
  - Are risk scores enough?
3. Discussion of when to initiate parenteral therapy and various options available.
4. Recognition of practice gaps suggesting that many PAH patients with advanced disease are not initiated on parenteral therapies and discussion of possible factors influencing this outcome.

**2:10 – 3:15 p.m.**

**SESSION 2: CHALLENGES IN PH DUE TO LEFT HEART DISEASE: AN INCREASINGLY RECOGNIZED COMPLICATION**

**Moderator:** Roberto Badagliacca, M, PhD, University of Rome Sapienza, Rome, Italy

**2:10 p.m.**

***Summary of the State of the Science of the Session Topic and Its Most Pressing Challenges***

Roberto Badagliacca, M, PhD, University of Rome Sapienza, Rome, Italy

**2:15 p.m.**

***CASE SCENARIO 2A: PH Due to Heart Failure with Reduced Ejection Fraction. What To Do? Future Opportunities?***

Raymond Benza, MD, FACC, The Ohio State University, Columbus, OH USA

***Teaching/Discussion Points***

1. Hemodynamic definition and its limitations.
2. Epidemiology and phenotypes. Understanding the role of the right ventricle in HFrEF.
3. Pathophysiology of PH-HFrEF and the importance of mitral regurgitation.
4. Discussion of transplant and advanced support in the presence of PH.
5. Challenges in the management of patients with HFpEF and significant RV dysfunction. Discussion whether targeting the pulmonary vasculature is effective and safe.

**2:45 p.m.**

***CASE SCENARIO 2B: PAH or PH Due to Heart Failure with Preserved Ejection Fraction***

Michele D'Alto, MD, PhD, Monaldi Hospital, Naples, Italy

***Teaching/Discussion Points***

1. Examine the clinical context of the disease.
2. Review the strengths and limitations of diagnostic tools (mainly echocardiography and right heart catheterization).
3. Distinguish between PAH with comorbidities and PH due to HFpEF.
4. Discuss the management options for patients with PAH with comorbidities and patients with PH due to HFpEF.

**3:15 – 3:45 p.m.**

**COFFEE BREAK**

**3:45 – 4:50 p.m.**

**SESSION 3: PH DUE TO ADVANCED LUNG DISEASE**

**Moderator:** Sandeep Sahay, MD, MSc Houston, Methodist Hospital, Houston, TX USA

**3:45 p.m.**

***Summary of the State of the Science of the Session Topic and Its Most Pressing Challenges***

Sandeep Sahay, MD, MSc, Houston, Methodist Hospital, Houston, TX USA

**3:50 p.m.**

***CASE SCENARIO 3A: PH Due to Chronic Obstructive Lung Disease as well as Combined Pulmonary Fibrosis and Emphysema***

Nicholas Kolaitis, MD, University of California San Francisco, San Francisco, CA USA

***Teaching/Discussion Points***

1. Understand the implications of PH in diffuse parenchymal lung disease.
2. Epidemiology: advances in screening techniques and diagnostic algorithms.
3. Interpretation of hemodynamic testing in the setting of advanced lung disease.
4. Challenges in the treatment of advanced pulmonary vascular disease in patients with COPD and CPFE.
5. Clinical trial conundrums.

**4:20 p.m.**

***CASE SCENARIO 3B: PH in Idiopathic Interstitial Pneumonia***

Steven Nathan, MD, Inova Fairfax Hospital, Falls Church, VA USA

***Teaching/Discussion Points***

1. Epidemiology of PH in ILD.
2. Is PH complicating IIP different to the PH associated with CTD ILD?
3. Screening for PH in ILD.
4. Treatment options, limitations of current therapies.
5. Implications with regards to transplantation.

**4:50 – 5:55 p.m.**

**SESSION 4: CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH)**

**Moderator:** Joanna Pepke-Zaba, PhD, FRCP, Royal Papworth Hospital NHS Foundation Trust, Cambridge, UK

**4:50 p.m.**

***Summary of the State of the Science of the Session Topic and Its Most Pressing Challenges***

Joanna Pepke-Zaba, PhD, FRCP, Royal Papworth Hospital NHS Foundation Trust, Cambridge, UK

**4:55 p.m.**

***CASE SCENARIO 4A: Management of CTEPH Patients With Mainly Proximal/Mid Subsegmental Distribution of the Chronic Clot***

Elie Fadel, MD, Hospital Marie Lannelongue, Le Plessis-Robinson, France

***Teaching/Discussion Points***

1. Overlap between PEA and BPA: Surgical challenges in patients with distal distribution of chronic clots, risks for BPA in proximal segmental distribution of the vascular obstructions.
2. Is there one right therapeutic approach? Is there a role for multimodality approach in CTEPH?
3. Need for long term follow-up.

**5:25 p.m.**

***CASE SCENARIO 4B: CTEPD with Discordant Diagnostic Results Between Imaging and Haemodynamic Variables***

William Auger, MD, University of California San Diego, San Diego, CA USA

***Teaching/Discussion Points***

1. CTEPD /exercise induced PH.
2. Optimizing patient selection for PEA in patients with high pulmonary vascular resistance.
3. Predicting surgical outcomes from pre-op data.
4. Identifying patients with post PEA persistent PH.

**5:55 – 6:00 p.m.**

**CLOSING REMARKS AND THANKS**

Colin Church, BSc(Hons), PhD, FRCP, Golden Jubilee National Hospital, Glasgow, Scotland

Marc Simon, MD, MS, University of California San Francisco, San Francisco, CA USA

**6:00 p.m.**

**ADJOURN**