



# PVRI 2025 Rio Annual Congress

29 January - 1 February 2025

## Embracing Heterogeneity

Windsor Convention & Expo Centre, R. Martinho de Mesquita, 129 - Barra da Tijuca Rio de Janeiro - RJ, 20031-204





# Programme overview

## Pre-congress satellite meetings, Windsor Oceanico, 2nd Floor, Oceania

### Wednesday, 29 January

- 08:00-16:00 Innovative Drug Development Initiative (IDDI) Meeting, [Oceania IX](#)
- 08:00-16:00 Infection in Pulmonary Vascular Disease (iPVD) Consortium Meeting, [Oceania X](#)
- 08:00-12:00 Paediatric & Congenital Heart Disease Task Force Meeting, [Oceania II](#)
- 12:30-18:00 PAH-ICON: International Consortium for Genetic Studies in PAH Meeting, [Oceania II](#)
- 13:30-17:15 Imaging Task Force Meeting, [Oceania III](#)
- 16:00-18:00 High Altitude Task Force Meeting, [Oceania X](#)
- 16:00-18:00 PVRI Board Meeting, [Oceania VIII](#)

## Scientific programme, Windsor Oceanico, 3rd Floor, Asia

### Thursday, 30 January: Heterogeneity in the presentation of PH

- 08:00-11:05 Session 1: Establishing the framework for the classification and diagnosis of PH worldwide
- 11:05-13:00 Buffet lunch [Windsor Barra, Ground Floor, Barra Restaurant](#)
- 11:05-13:00 Career Catalyst Luncheon (bookable), [Windsor Barra, 2nd Floor, Alhambra & El Pardo](#)
- 13:00-16:00 Session 2: Risk stratification and treatment in the new era of PH therapeutics
- 16:00-18:00 Poster presentations
- 18:00-20:00 Welcome Drinks Reception (open to all), [Windsor Barra, 2nd Floor, Alhambra & El Pardo](#)

### Friday, 31 January: Heterogeneity in the pathobiology of PH

- 08:00-11:10 Session 3: Vascular heterogeneity in chronic lung disease
- 11:10-13:00 Buffet lunch [Windsor Barra, Ground Floor, Barra Restaurant](#)
- 11:10-13:00 Women in PH Luncheon (bookable), [Windsor Barra, 2nd Floor, Alhambra & El Pardo](#)
- 13:00-16:30 Session 4: Heterogeneity in PH associated with heart disease
- 16:30-18:00 Poster presentations
- 19:00-23:59 Gala Dinner & Awards Presentation (bookable), [Windsor Barra, Ground Floor, Louvre](#)

### Saturday, 1 February: Learning from heterogeneity to improve outcomes in PH

- 08:00-11:00 Session 5: The individual exposome and its contribution to PH heterogeneity
- 11:00-12:45 Buffet lunch [Windsor Barra, Ground Floor, Barra Restaurant](#)
- 11:00-12:00 Hot topics from PVRI GoDeep (bookable), [Windsor Oceanico, 3rd Floor, Asia](#)
- 12:00-12:45 Pulmonary Circulation Meeting (closed), [Windsor Oceanico, 2nd Floor, Oceania VIII](#)
- 12:45-13:45 Session 6: Quantifying therapeutic responses
- 13:45-14:15 Refreshment break
- 14:15-16:15 Session 7: Leveraging disease heterogeneity in clinical trial design



## Innovative Drug Development Initiative (IDDI)

### Session 1: Introduction

- 08:00-08:05 Welcome  
Speaker TBC
- 08:05-08:20 PVRI IDDI Introduction and organisational changes  
Luke Howard, Peter Fernandes, Sandeep Sahay & Sylvia Nikkho

### Session 2: New Modalities & Technologies in RHF & PH

Co-chairs: *Peter Fernandes, Luke Howard*

- 08:20-08:30 Introduction  
Nick Hill
- 08:30-09:00 Panel/open discussion to debate on what we have learnt and what is still unknown  
All
- 09:00-09:20 Innovative approaches & technical advances with treating & diagnosing PH  
Mark Pritzker/John Scandurra
- 09:20-09:40 Go Deep as a source data for in silico studies  
Werner Seegar/Steve Niederer
- 09:40-10:20 Advancements in the use of Digital Health Technology from regulatory, pharma & academic stakeholders: "Articulating the clinical, economic, and patient-centric value of digital endpoints"  
Speaker TBC

10:20-10:40 Refreshment break

### Session 3: Real World Evidence / Real World Data

Co-chairs: *Kellie Morland, Jason Weatherald*

- 10:40-10:50 Real World Data Delphi to establish core data for global PH Registries  
Sandeep Sahay
- 10:50-11:05 Scoping review  
Sarah Cohen
- 11:05-11:15 Group discussion

### Session 4: Patient Engagement & Empowerment

- 11:15-11:35 Understanding the patient perspective to advance care  
Matt Granato

### Session 5: Access to Care

- 11:35-11:55 Access to Care Workstream achievement and plan  
Vijay Balasubramanian, Sandeep Sahay
- 11:55-12:05 Group discussion

### Session 6: Challenges of Clinical Trial Design, Conduct & Endpoints

Co-chairs: *Harm Jan Bogaard, CQ Deng*

- 12:05-12:15 Presentation on the Workstream paper "Clinical trial design, end-points, and emerging therapies in PAH", (Weatherald 2024, ERJ) & the key discussions that led to its development  
Jason Weatherald
- 12:15-12:22 Clinical trial endpoints  
Harm Jan Bogaard
- 12:22-12:30 Insights on clinical trial design from the perspective of industry  
CQ Deng
- 12:30-12:35 Group discussion

12:35-13:35 Lunch break

### Session 7: Lung Transplantation in PH

Chair: *Reda Girgis*

- 13:35-13:50 Anaesthetic Management of PAH  
Andrea Miltiades
- 13:50-14:05 VA ECMO in PAH  
Lara Schaheen
- 14:05-14:15 Group discussion

### Session 8: Paediatric Clinical Trial Design & Endpoints

Co-chairs: *Steve Abman, Sylvia Nikkho*

Theme: Heterogeneity in Paediatric PH

- 14:15-14:25 Introduction  
Steven Abman
- 14:25-14:35 Enhancement of drug development in paediatric PAH – extrapolation from available adult data  
Sylvia Nikkho - remote
- 14:35-14:45 Challenges of drug development in bronchopulmonary dysplasia  
Steven Abman & Bernard Thebaud- remote
- 14:45-14:55 Group discussion

### Session 9: PH Group III

Co-chairs: *Steve Nathan, Sylvia Nikkho*

- 14:55-15:05 Past, present, & future of PVD in COPD  
Gabor Kovacs
- 15:05-15:15 Imaging in PH and chronic lung disease  
Shelsey Johnson
- 15:15-15:25 Group discussion
- 15:25-16:00 Wrap up and final comments

**Wednesday  
29 January**

Windsor Oceanico,  
2nd Floor, Oceania IX



## Infection in Pulmonary Vascular Disease (iPVD) Consortium Task Force

08:00–08:05 Welcome and opening remarks  
Navneet Dhillon

### Session 1: Current updates on infection associated PVDs

Co-chairs: Navneet Dhillon, Suellen Oliveira

08:05–08:25 Pulmonary vascular complications of tuberculosis: PH and beyond  
Brian Allwood

08:25–08:45 Update on multiple co-morbidities and PVD  
Peter Nyasulu

08:45–09:05 Update on HIV and PVD  
Ana Olga Mocumbi

09:05–09:25 Mechanistic overlap between inflammatory pathways relevant to PH and COVID-19  
Stephen Chan

09:25–09:45 Pathobiology of inflammatory immune cells in schistosoma induced PH  
Rahul Kumar

09:45–10:05 Fungal infections induced PH  
Alexandre Fabro

10:05–10:30 Refreshment break

### Session 2: Schistosomiasis associated PVD in Latin America

Co-chairs: Ghazwan Butrous, Brian Graham

10:30–10:50 Overview of Sch-PAH: case-based presentation of the disease spectrum  
Angela Bandeira

10:50–11:10 Clinical and epidemiological aspects of Sch-PAH in Bahia  
Camila Loureiro

11:10–11:30 Clinical and epidemiological aspects of Sch-PAH in Minas Gerais  
Ricardo Correa

11:30–11:50 Clinical presentation of hepatoesplenic schistosomiasis in Brazil  
Roberto José Carvalho

11:50–12:10 Advances in schistosomiasis basic research: insights from Brazil  
Katia Oliveira

12:10–12:30 Insights from NIH schistosomiasis PAH multicenter study  
Rudolf Oliveira

12:30–13:30 Lunch break

### Panel discussions on schistosomiasis

Co-chairs: Navneet K Dhillon, Suellen Oliveira

13:30–14:00 Panel 1: Current challenges in diagnosing schistosomiasis, including biomarker availability and diagnostic tools

Chair: Rogerio Souza

Panel: Eliane Mancuzo, Camila Rezende, Camila Loureiro

14:00–14:30 Panel 2: Epidemiological and preventive aspects of schistosomiasis in Brazil, including current status, future perspectives, and impact on PH development

Chair: Ricardo Correa

Panel: Miriam Tendler, Roberto José Carvalho, Rudolf Oliveira, Angela Bandeira

14:30–15:00 Refreshment break

### Session 3: Second hit phenomenon in infection associated PVDs

Co-chairs: Rudolf Oliveira, Vinicio de Jesus Perez

15:00–15:20 Air pollution, climate change, infection and PH  
Mona Lichtblau

15:20–15:40 Emerging insights into HIV- and methamphetamine-driven PAH: From mechanisms to management  
Prangthip Charoenpong

15:40–16:00 Microbiome and schistosomiasis  
Suellen Oliveira

Wednesday  
29 January

Windsor Oceanico,  
2nd Floor, Oceania X





# Paediatric & Congenital Heart Disease Task Force

## Opportunities for involvement with the Paediatric Task Force

08:00-08:03 Introduction and overview. Future directions for the Paediatric Task Force  
Maria Jesus del Cerro

## Ongoing activities and new opportunities at PVRI

Chair: Maria Jesus del Cerro

08:03-08:15 PVRI Pulmonary Hypertension Global Patient Survey (PH GPS)  
Shahin Moledina

08:15-08:23 PVRI Innovative Drug Development Initiative (IDDI)  
Steven Abman

08:23-08:30 PVRI GoDeep Registry  
Megan Griffiths, Anne Hilgendorff

08:30-08:40 Discussion  
All

## Collaboration among international registries

Co-chairs: Shahin Modelina, Rolf Berger

08:40-08:55 Collaboration between registries: Let's make it real  
Mary Mullen, Shahin Moledina, Maria del cerro, Rolf Berger

08:55-09:10 What adaptations are needed? Do we need rules?  
Maria Jesus del Cerro, Megan Griffiths

09:10-09:40 Discussion  
All

## I have a research project I want to share

09:40-09:50 Genetics of PH study  
Eric Austin

09:50-10:00 Ongoing research: Genetic variants in pediatric PH across different registries & countries  
Rolf Berger

10:00-10:10 Ongoing research: Boston Children's Hospital  
Mary Mullen

10:10-10:20 Ongoing research in PAH in complex congenital heart disease in Mexico  
Humberto Garcia-Aguilar

10:20-10:35 Refreshment break

Wednesday  
29 January

Windsor Oceanico,  
2nd Floor, Oceania II

## 7th World Symposium summary

Co-chairs: Rolf Berger, Mary Mullen

10:35-10:45 Major recommendations & rationale  
Dunbar Ivy

10:45-10:50 Neonatal PH: Disease phenotypes & next steps  
Steven Abman

10:50-11:30 Discussion  
All

## I have a clinical case I want to discuss

Chair: Usha Krishnan

11:30-12:00 Two cases to be presented





Imaging Task Force

International imaging datasets, analysis methods & clinical impact

13:30-13:40

Introduction  
David Kiely

Session 1: International PH imaging data

Co-chair: Khodr Tello, David Kiely

- 13:40-13:55
- PVRI Imaging Task Force: updates and future endeavours  
David Kiely, Andy Swift, Rebecca Vanderpool
- 13:55-14:10
- Integration of imaging into the GoDeep registry: challenges and opportunities  
Khodr Tello
- 14:10-14:25
- Imaging practice in PH experience in South America (TBC)
- 14:25-14:50
- Open discussion on integration of imaging into PVRI GoDeep  
All
  - > Summary of the session
  - > Focused discussion on integration of data and opportunities
    - > What data to integrate
    - > How to collect, anonymise and store data
    - > Database access and management
    - > Opportunities for large scale analysis and large outcome studies

14:50-15:10

Refreshment break

Session 2: Current & novel imaging approaches to improve diagnosis & phenotyping

Co-chairs: Raul San Jose Estepar, Sandeep Sahay

- 15:10-15:25
- CT Imaging approaches for phenotyping of patients with PH  
Lilian Meijboom
- 15:25-15:40
- Developments in CT imaging for pulmonary vessels  
Farbod Rahaghi
- 15:40-16:00
- 4D Flow in PH: better insights into PH hemodynamics  
Mohammed Elbaz, Ben Freed
- 16:00-16:15
- Questions & roundtable discussion  
All
- 16:15-16:30
- Refreshment break

Wednesday

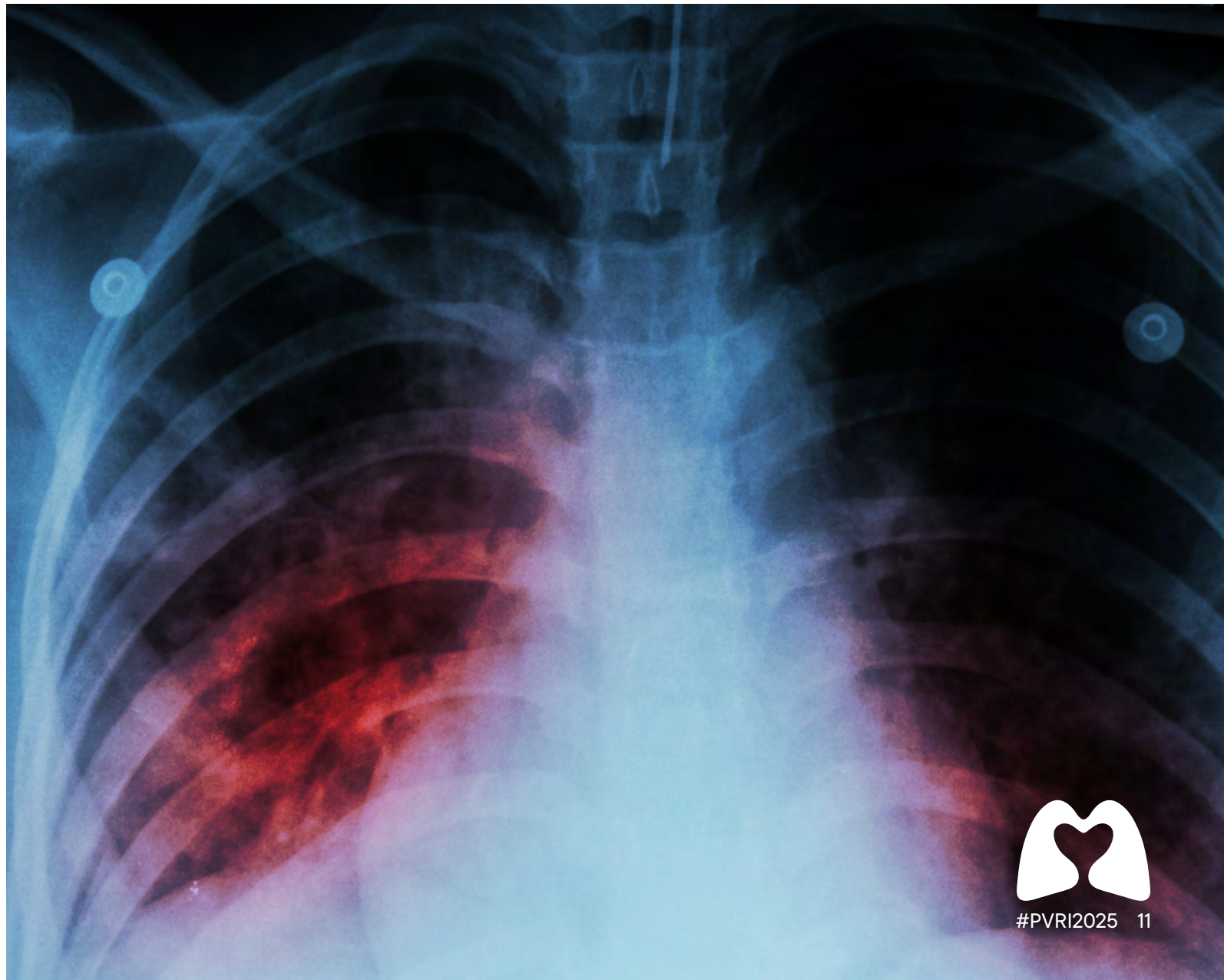
29 January

Windsor Oceanico,  
2nd Floor, Oceania III

Session 3: Using microCT & computational/AI approaches to improve our understanding of PVD

Co-chairs: David Kiely, Rebecca Vanderpool

- 16:30-16:45
- Synchrotron-based phase-contrast microcomputed tomography (micro-CT) in pulmonary vascular phenotypes  
Karin Tran Lundmark
- 16:45-17:00
- Emerging computational approaches in imaging for PH  
Pietro Nardelli
- 17:00-17:15
- Clinical applications of AI  
Andy Swift
- 17:15-17:30
- Questions and roundtable discussion  
All
- 17:30-17:40
- Closing remarks  
Rebecca Vanderpool, David Kiely





# PAH-ICON: International Consortium for Genetic Studies in PAH

12:30-12:40    Welcome  
Micheala Aldred, Stefan Gräf

**Invited presentations & panel discussions**  
Each talk includes 10 minutes of discussion time

12:40-13:20    Keynote: Rare disease landscape in Brazil and Latin America  
Roberto Giugliani

13:20-14:00    Update from ClinGen PAH gene and variant expert panel  
Carrie Welch

14:00-14:40    Update from the TBX4Life initiative  
Eric Austin

14:40-14:50    Refreshment break

**Abstract presentations**

14:50-15:10    Late onset pulmonary veno-occlusive disease associated with rare heterozygous variants of KDR and EIF2AK4  
Vasile Foris

15:10-15:30    Functional characterization of novel KV1.5 variants in PAH  
Andrea Olschewski

15:30-15:50    Spatial profiling identifies localised changes in gene expression in pulmonary vascular remodeling in the sugen hypoxia rat model  
James Klinger

15:50-16:10    Pathogenic PAH gene variants linked to pulmonary vascular pruning in non-hispanic white COPD gene participants  
Vasile Foris

16:10-16:30    Smaller right ventricular volumes correlate with elevated afterload in unaffected carriers of a pathogenic BMPR2 variant  
Eszter Tóth

16:30-16:45    Refreshment break

**Building future PH cohorts**

- 16:45- 18:00
- > Examples and experiences from around the globe
  - > PVRI GoDeep's future perspective
  - > Core data set: Standardisation & harmonisation of phenotypes
  - > Leveraging image data
  - > Resources, federation & analysis strategies
  - > Global ethics & governance

# High-Altitude Task Force

Wednesday  
29 January  
Windsor Oceanico,  
2nd Floor, Oceania X

## Challenges to the pulmonary circulation & beyond at high altitude

Co-chairs: Aastha Mishra, Silvia Ulrich

Each talk includes 10 minutes of discussion time

16:00-16:30    Birth at high altitude – immediate challenges & life-long consequences  
Alexandra Heath

16:30-17:00    The role of the endothelium in acute & chronic pulmonary vascular adaptation to hypoxia  
Wolfgang Kübler

17:00-17:30    Patients diagnosed with pulmonary vascular disease (PAH/CTEPH) at high altitude  
Silvia Ulrich

17:30-18:00    Lowlanders with COPD going to altitude – implication for the right heart & the pulmonary vasculature  
Mona Lichtblau

18:00-18:30    High Altitude Task Force meeting





# Scientific programme speakers



**Steven Abman**  
University of Colorado



**Vineet Agrawal**  
Vanderbilt University  
Medical Center



**Rolf Berger**  
University Medical  
Center Groningen



**Ioana Preston**  
Lahey Clinic



**Sasha Prisco**  
University of Minnesota



**Farbod (Nick)  
Rahaghi**  
Brigham and Women's  
Hospital / Harvard  
Medical School



**Prashant Bobhate**  
Kokilaben Dhirubai  
Ambani Hospital



**Harm Jan Bogaard**  
Amsterdam University  
Medical Centers



**Evan Brittain**  
Vanderbilt University  
Medical Center



**Alex Rothman**  
University of Sheffield



**Soni Savai-  
Pullamsetti**  
Max Planck Institute



**Sandeep Sahay**  
Houston Methodist  
Hospital



**Stephen Chan**  
University of Pittsburgh  
School of Medicine



**Vinicio de Jesus  
Perez**  
Stanford University



**Kara Goss**  
UT Southwestern  
Medical Center



**Catherine Simpson**  
Johns Hopkins  
University



**Natascha Sommer**  
University of Giessen &  
Marburg Lung Center



**Rogerio Souza**  
University of Sao Paulo  
Medical School



**Anna Hemnes**  
Vanderbilt University  
Medical Center



**Rachel Hopper**  
Lucile Packard  
Children's Hospital/  
Stanford University  
School of Medicine



**Dunbar Ivy**  
Children's Hospital  
Colorado/University  
of Colorado School of  
Medicine



**Edda  
Spiekerkoetter**  
Stanford University



**Charlotte  
Summers**  
University of  
Cambridge



**Andrew Swift**  
University of Sheffield



**Maria Jesus del  
Cerro Marin**  
Hospital Universitario  
Ramón y Cajal



**David Kiely**  
University of Sheffield



**Gabor Kovacs**  
Medical University of  
Graz



**Caio Tavares**  
Imperial College  
London



**Khodr Tello**  
University Hospital  
Giessen



**Mark Toshner**  
University of  
Cambridge



**Wolfgang Kübler**  
Charité -  
Universitätsmedizin  
Berlin



**Grazyna  
Kwapiszewska**  
Medical University  
Graz & Institute of Lung  
Health



**Tim Lahm**  
National Jewish Health



**Karin Tran-  
Lundmark**  
Skane University  
Hospital & Lund  
University



**Rubin Tuder**  
University of Colorado  
Anschutz Medical  
Campus



**Silvia Ulrich**  
University Hospital  
Zurich



**Charly Lai**  
Indiana University  
School of Medicine



**Allan Lawrie**  
Imperial College  
London



**Susan Majka**  
National Jewish  
Health - University Of  
Colorado



**Rebecca  
Vanderpool**  
The Ohio State  
University



**Nidhy Varghese**  
Texas Children's  
Hospital



**Frances Varian**  
University of Sheffield



**Bradley Maron**  
University of Maryland



**Hiromi Matsubara**  
Okayama Medical  
Center



**Valentina Mercurio**  
Federico II University



**Corey Ventetuolo**  
Brown University



**Sofia Villar**  
University of  
Cambridge



**Jason Weatherald**  
University of Alberta



**Shahin Moledina**  
Great Ormond Street  
Hospital



**Steven Niederer**  
Imperial College  
London



**Rudolf Oliveira**  
Federal University of  
Sao Paulo



**Martin Wilkins**  
Imperial College  
London



**Roham Zamanian**  
Stanford University



**Nayeli Zayas**  
Instituto Nacional de  
Cardiología Ignacio  
Chavez



## SESSION 1: Establishing the framework for the classification & diagnosis of PH worldwide

*Moderators: Katarina Zeder, Lindsay Forbes, Sonja Bartolome*

- 08:00-08:05 PVRI President's welcome  
Anna Hemnes
- 08:05-08:20 PH care in Brazil  
Rogerio Souza
- 08:20-08:35 Classification & diagnosis of PH: Updates from the 7th WSPH  
Gabor Kovacs
- 08:35-08:50 Omics-based & data-driven approaches to early disease diagnosis  
Catherine Simpson
- 08:50-08:57 **The prevalence of PH in sickle cell disease in sub-Saharan Africa: A systematic review & meta-analysis**  
*Armella Santi*
- 08:57-09:12 CIPHER & CIPHER-MRI studies for early diagnosis of PH  
Ioana Preston
- 09:12-09:27 Advanced medical imaging & AI in PH diagnosis & classification  
Andy Swift

09:27-09:57 **Refreshment break**

*Moderators: Tatiana Kudryashova, Tim Lahm, Gabor Kovacs*

- 09:57-10:12 Cardiopulmonary exercise testing in the diagnosis & phenotyping of PH patients  
Khodr Tello
- 10:12-10:27 Classification & diagnosis of paediatric PH: Updates from the 7th WSPH  
Dunbar Ivy
- 10:27-10:35 **Global treatment disparities within high- and middle-high income PH centers: A cluster analysis by the PVRI IDDI Access to Care Workstream**  
*Franz Rischard*
- 10:35-10:50 CTEPH & CTED approach to early diagnosis & treatment  
Mark Toshner
- 10:50-11:05 How pre-clinical models can be used to improve clinical phenotyping & early diagnosis  
Vineet Agrawal

11:05-13:00 **Lunch break**, Windsor Barra, Ground Floor, Barra Restaurant  
11:05-13:00 **Career Catalyst Luncheon**, Windsor Barra, 2nd Floor, Alhambra & El Pardo  
Hosts: Jason Weatherald, Laura Opegard, Katarina Zeder and Navneet Singh

## SESSION 2: Risk stratification & treatment in the new era of PH therapeutics

*Moderators: Pilar Escribano Subias, Sue Gue, Sandeep Sahay*

- 13:00-13:15 Developments in risk stratification scores in PH  
Valentina Mercurio
- 13:15-13:30 RV phenotyping in PH risk stratification & treatment  
Tim Lahm
- 13:30-13:45 The impact of novel therapeutics on the treatment algorithm of PH  
Sandeep Sahay
- 13:45-13:52 **A monoclonal antibody targeting the ZIP12 transporter attenuates severe experimental PAH**  
*Stephanie Hopley*
- 13:52-14:07 Surgical Interventions, mechanical support, & transplant in end-stage PH  
Nayeli Zayas

14:07-14:37 **Refreshment break**

*Moderators: Corey Ventetuolo, Athiththan Yogeswaran, Horst Olschewski*

- 14:37-14:52 Approach to the treatment of Group 1 PH patients with co-morbidities  
Anna Hemnes
- 14:52-15:07 Risk stratification & treatment of paediatric PH  
Rolf Berger
- 15:07-15:15 Preclinical models support the synergistic potential of serralutinib & sotatercept in treating PAH  
*Daniel Bachteler*
- 15:15-15:30 Medical & surgical management of CTED & CTEPH  
Hiromi Matsubara
- 15:30-16:00 Panel discussion: Realities & challenges of applying PH guidelines for diagnosis & treatment in LMIC  
*Facilitators: Vinicio de Jesus Perez, Werner Seeger, Ana Mocumbi, Gerald Maarman, Mauricio Orozco Levi*

16:00-18:00 **Poster presentations**

18:00-19:30 **Drinks Reception**, Windsor Barra, 2nd Floor, Alhambra & El Pardo

**Thursday  
30 January**  
Windsor Oceanico,  
3rd Floor, Asia





### SESSION 3: Vascular heterogeneity in chronic lung disease

*Moderators: Grazyna Kwapiszewska, Shelsey Johnson, Susan Majka*

- 08:00-08:05 Introduction  
Grazyna Kwapiszewska
- 08:05-08:20 Clinical aspects of PH heterogeneity in chronic lung disease: Same as PAH or different?  
Corey Ventetuolo
- 08:20-08:35 Translational investigations of PH in fibrotic lung disease models  
Susan Majka

08:35-08:42 **RUPERT SWIFT AWARD LECTURE:** Cluster analysis identifies computed tomography imaging-based phenotypes of PH associated with COPD-PH  
Shelsey Johnson

- 08:42-08:50 Endotyping PH in COPD: possible role of systemic & lung iron status  
Horst Olschewski
- 08:50-09:05 Translational investigations of PH in COPD disease models  
Natascha Sommer
- 09:05-09:20 Panel discussion: Comparison of vascular changes in CLD & PAH

09:20-09:50 Refreshment break

*Moderators: David Kiely, Mona Lichtblau, Sarah MacIassac*

- 09:50-09:55 Introduction  
David Kiely
- 09:55-10:10 Vasculature in CLD: Imaging insights  
Farbod (Nick) Rahaghi
- 10:10-10:25 Pulmonary vascular heterogeneity: Insights from contemporary pathological approaches  
Rubin Tudor
- 10:25-10:33 Elevated vascular hyaluronan as a therapeutic target in PH associated with lung fibrosis  
Harry Karmouty Quintana

10:33-10:40 **BUTROUS FOUNDATION YOUNG INVESTIGATOR AWARD LECTURE:** Impact of IRG1/Itaconate axis on cardiopulmonary phenotype: linking bone marrow dynamics to inter-organ communication  
Golnaz Hesami

- 10:40-10:55 Vascular changes in paediatric chronic lung disease  
Steven Abman
- 10:55-11:10 Panel discussion: Should we target vascular changes in chronic lung disease?

11:10-13:00 Lunch break, Windsor Barra, Ground Floor, Barra Restaurant

11:10-13:00 **Women in PH Luncheon**, Windsor Barra, 2nd Floor, Alhambra & El Pardo  
Host: Anna Hemnes Speakers: Jill Maron, Karin Tran-Lundmark, Ana Olga Mocumbi

### SESSION 4: Heterogeneity in PH associated with heart disease

*Moderators: Nidhy Varghese, Baktybek Kojonazarov, Rebecca Vanderpool*

- 13:00-13:05 Introduction  
Nidhy Varghese
- 13:05-13:20 How do HFrEF & HFpEF affect the pulmonary vasculature & how can we model it?  
Charly Lai
- 13:20-13:35 Congenital heart disease & the pulmonary vasculature  
Shahin Moledina
- 13:35-13:42 PH is highly prevalent in rheumatic heart disease in sub-Saharan Africa: a systematic review & meta-analysis  
Katarina Zeder
- 13:42-13:57 Animal models of heart disease PH  
Wolfgang Kübler
- 13:57-14:05 17 $\beta$ -Estradiol enhances right ventricle angiogenesis & endothelial cell fatty acid oxidation in PAH in a carnitine palmitoyltransferase 1-dependent manner  
Simon Bousseau
- 14:05-14:20 Effect of pre and post-tricuspid shunts on the pulmonary vasculature  
Rachel Hopper

14:20-14:50 Refreshment break

*Moderators: Harm Jan Bogaard, Evan Brittain, Philipp Douschan*

- 14:50-14:55 Introduction  
Harm Jan Bogaard
- 14:55-15:10 How can we study the right ventricle to develop novel therapies?  
Edda Spiekerkoetter
- 15:10-15:17 The role of SMYD2/RUNX2 axis in right ventricular hypertrophy & failure  
Vandna Sapehia
- 15:17-15:32 Advances in imaging RV function in humans & animal models with PH  
Rebecca Vanderpool
- 15:32-15:40 Effects of Dapagliflozin on PH in a rat pulmonary vein banding (PVB) model  
Leonhard Blumrich
- 15:40-15:55 Cellular heterogeneity in RV dysfunction  
Soni Savai-Pullamsetti
- 15:55-16:10 Managing RV dysfunction in resource-limited settings  
Prashant Bobhate
- 16:10-16:30 Panel discussion

16:30-18:00 Poster presentations

19:00-23:59 Gala Dinner & Award Presentations, Windsor Barra, Ground Floor, Louvre

**Friday  
31 January**  
Windsor Oceanico,  
3rd Floor, Asia





## SESSION 5: The individual exposome & its contribution to PH heterogeneity

*Moderators: Lan Zhao, Navneet Dhillon, Harry Karmouty Quintana*

- 08:00-08:15 Drug exposures and PH  
Vinicio de Jesus Perez
- 08:15-08:30 Infectious exposures & pulmonary vascular disease  
Rudolf Oliveira
- 08:30-08:45 High altitude exposure and PH  
Silvia Ulrich
- 08:45-09:00 Early life exposures and pulmonary vascular disease  
Kara Goss
- 09:00-09:15 The Microbiome in PH  
Sasha Prisco

09:15-09:45 Refreshment break

*Moderators: Flavia Navarro, Luke Howard, Rudolf Oliveira*

- 09:45-10:00 Less considered exposures that contribute to PH  
Stephen Chan
- 10:00-10:07 Novel potential connection between lung microbiome dysbiosis & P2X7R/c-IAP2-regulated endothelial survival in schistosomiasis-associated PH  
Suellen Darc Oliveira
- 10:07-10:22 Real world activity and exercise perception in PH patients - MyHeart Counts  
Allan Lawrie
- 10:22-10:37 Insights from All of Us/EHR  
Evan Brittain
- 10:37-10:45 Early recruitment & alternative activation of macrophages initiate pathophysiological changes in pulmonary vasculature upon smoke exposure  
Vinita Sharma
- 10:45-11:00 Exposome as a modifiable factor for PH management  
Bradley Maron

11:00-12:45 Lunch break, Windsor Barra, Ground Floor, Barra Restaurant

11:00-12:00 Hot topics from PVRI GoDeep

*Chairs: Martin Wilkins, Paul Hassoun, Werner Seeger*

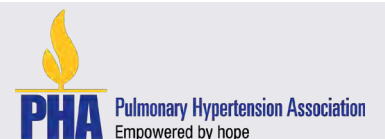
- Overview of the GoDeep meta-registry Werner Seeger
- Risk scores beyond group 1 PH – baseline and follow-up Athiththan Yogeswaran
- Survival outcomes and Impact of targeted PAH therapy in PoPH Arun Jose
- PAH-targeted therapies in group 3 PH – PDE5 inhibitor therapy associated with improved survival Khodr Tello
- Male survival disadvantage in PH: independent of etiology, age, disease severity, comorbidities and treatment, but race-dependent Evan Brittain

## SESSION 6: Quantifying therapeutic responses

*Moderators: Patricia Thistlethwaite, Andy Sweatt, Steeve Provencher*

- 12:45-13:00 How should we define disease modification?  
Roham Zamanian
- 13:00-13:15 Developing imaging surrogates of vascular histology to quantify reverse remodeling  
Karin Tran-Lundmark
- 13:15-13:23 CT-based discrimination of CTEPH using deep learning clot vessel radiomics & machine learning  
Pietro Nardelli
- 13:23-13:30 Novel insights from functional respiratory imaging (FRI) analysis in phase 2 INS1009-211 study: Treprostinil palmitil inhalation powder (TPIP) impact on pulmonary vasculature in patients with PH-ILD  
Colin Church

13:30-13:45 A joint talk with PVRI and PHA USA  
Patient reported outcomes  
Frances Varian



13:45-14:15 Refreshment break

## SESSION 7: Leveraging disease heterogeneity in clinical trial design

*Moderators: Jane Leopold, Navneet Singh, Roham Zamanian*

- 14:15-14:30 What is a platform trial?  
Charlotte Summers
- 14:30-14:45 Global perspective & digital trials  
Caio Tavares
- 14:45-15:00 Update in paediatric clinical trials  
Maria Jesus del Cerro

**Dragon's Den / Shark Tank**

*Dragons/Sharks: Sonja Bartolome, Ardeshir Ghofrani, Charlotte Summers, Paul Corris*

- 15:00-15:05 Dragon Den introduction Martin Wilkins
- 15:05-15:20 PHoenix trial (rationalising current treatments using implanted devices) Alex Rothman
- 15:20-15:35 Stratosphere Bayesian trial for BMPR2 mutation carriers Sofia Villar
- 15:35-15:50 CRAVE: Canadian Right ventricular Adaptive platform trial Jason Weatherald
- 15:50-16:00 Summary Martin Wilkins

- 16:00-16:15 Building and testing a personal digital twin for PH  
Steve Niederer





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The PVRI 2025 Rio: Embracing Heterogeneity, Rio de Janeiro, Brazil 30/01/2025 - 01/02/2025, has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with **13.5 European CME credits (ECMEC®s)**. Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

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