Pulmonary Vascular Research Institute

14th PVRI Annual World Congress
on Pulmonary Vascular Disease

Date // 29 January - 2 February 2020

Preliminary timetable

Hotel // The Swissotel • Lima • Peru

WELCOME TO
LIMA • PERU
Our Scientific Planning Committee welcomes you to Lima, Peru
Pre-Congress MEETINGS

Wednesday 29 January 2020

PVRI Board of Directors Meeting
Chair: Paul Hassoun PVRI President 2018/19 THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE, BALTIMORE, USA and official handover to Werner Seeger, PVRI President 2020/21 JUSTUS LIEBIG UNIVERSITY GIESEN, GERMANY
09:00 - 17:00

PVRI Task Force Meetings
Including a meeting of the Schistosomiasis Task Force
09:00 - 17:00
Thursday 30 January 2020

WELCOME

08:00 - 08:05

Plenary 1

Hypoxia, mitochondria and metabolism - a dynamic triangle?

Target audience: All

Objectives:

This session will provide current updates on molecular mechanisms underlying hypoxic signalling, cellular metabolism and mitochondrial alterations in PH and RV dysfunction. This session will also address potential therapeutic implications of targeting mitochondrial and metabolic alterations, with directions for future research and translational focus.

- Role of HIF-2 in airway response to oxygen fluctuations
- Crosstalk between autophagic metabolism and angiocrine signalling in PAH
- Altered endothelial metabolism in PH and RV failure
- ROS signalling in smoke-induced pulmonary hypertension and emphysema
- Best abstract presentation

// To be announced

BREAK

10:00 - 10:30

// Speakers and moderators and will be announced soon.
Plenary 2

Lessons from high altitude for pulmonary hypertension 10:30 - 12:30

Target audience: All

Objectives:
Lessons from the naturally occurring hypoxic environment taking place at high altitude to reduce oxygenation at sea level, with special focus on the lung. Overall, humans are not designed to live at high altitudes and thus, evolution has come up with different strategies on how to adapt and reduce oxygenation. These mechanisms are different among the human population, e.g. South Americans adapt differently from the Himalayans. Accordingly, the pathologies are different between the ethnicities, and different lessons are to be learned for PH in general.

Haemoglobin levels from low to high altitude in different ethnologies

• Chronic mountain sickness and PH
• The molecular biology of the hypoxic lung
• Treating PH at high altitude
• Best abstract presentation
  // To be announced

LUNCH 12:30 - 13:30

PROFESSOR SHEILA GLENNIS HAWORTH LECTURE: Oxygen sensing and the lung 13:30 - 14:10

Pro-con debate session 14:10 - 15:30
15 minutes talk plus 5 minutes rebuttal for each speaker

• Optimised risk assessment, non-invasive imaging and CPET will substitute right heart catherisation in PH
• Pro:
• Con:

// Speakers and moderators and will be announced soon.
• TGFβ signalling plays a crucial role in PH independent of BMPR2

• Pro:

• Con:

**BREAK**

**Plenary 3**

**PVOD and PCH - orphan of the orphans, or just a common trait in some forms of PAH?**

**16:00 - 18:15**

**Target audience:** Clinicians, biologists, geneticists & pathologists

**Objectives:**
A comprehensive symposium to include different disciplines and provide a needed rescaling of the understanding of PVOD, after changes were made in the diagnostic classification at the World Symposium on PH in 2018. The session will resume what is known, what is new, and how scientific understanding, diagnostic approach and medical treatment of the disease can be optimised on consensus within the PH community.

• Pulmonary veno-occlusive disease or PAH with predominant venous remodelling; The pathologist’s view

• Genetic and molecular mechanisms of pulmonary venous remodelling

• Relevance of the Apelin receptor in PH: PVOD, PAH, or both?

• Characterising and phenotyping patients with sporadic and heritable PVOD

**PVRI Annual General Meeting**

**18:15 - 19:15**

**Welcome & Networking Reception**

**19:15 - 21:00**

END OF DAY 1 SCIENTIFIC SESSIONS
Friday 31 January 2020

Plenary 4

**PH in neonates and children development**  
**Target audience:** All  
**Objectives:**  
Interdependency between lung disease and PH from neonates to children - does this have impact on adult life? How to optimally treat newborns and children, and what are the trajectories for adult life?

- Lung Vascular changes in bronchopulmonary dysplasia
- Stem cells for promotion of lung vascular maturation and treatment of neonatal PH
- Treatment of neonatal PH at low and high altitude: NO and more
- Trajectory of PH in newborns: persistence in childhood, recurrence in adulthood
- **Best abstract presentation**  
  // To be announced

**BREAK**  
10:00 - 10:30

**PROFESSOR STUART RICH LECTURE:**  
Gene editing - ready for translation into clinical medicine  
10:30 - 11:10

**Rapid fire poster presentation (6 selected posters)**  
3 minutes presentation plus 2 minutes discussion for each poster, mixed clinical plus basic  
11:10 - 12:00

**Moderated poster session 1**  
80 minutes each  
12:00 - 13:20

**LUNCH**  
13:20

END OF DAY TWO SCIENTIFIC SESSIONS

// Speakers and moderators and will be announced soon.
Friday 31 January 2020

Sightseeing and tours will be offered to all delegates in the afternoon
Plenary 5

**Targeting growth suppressors in PH: current progress and therapeutic prospects**

Target audience: All

Objectives:
Learning from cancer, paving the avenue to true “reverse remodelling” therapy. Different strategies to achieve one common goal, the restoration of normal lung vascular architecture.

- FoxO re-activation and and beyond – the epigenetic treatment arsenal
- Sirt3 deficiency as a molecular target for PAH
- TSC2: new molecular target for therapeutic intervention in PAH
- Cyclin-dependent kinase inhibition as new treatment concept in PH
- Best abstract presentation // To be announced

**BREAK**

10:00 - 10:30

Plenary 6

**The global burden of PH - Time to engage with global health**

Target audience: All

Objectives:
PH to be addressed from a global perspective. Engagement of the PVRI in global health organisations: PVRI has a major focus on raising the profile of PH to a global audience as part of its strategy over next 5 years and is engaged with the WHF, WHO, Non Communicable Disease Alliance and the UN.

- Maternal and infant health in the Andes
- ECHO-based worldwide screening for PH
- Challenges in establishing centres of cardiology excellence in the developing world
- The burden of PH in Latin America - known facts or terra incognita?

- Best abstract presentation // To be announced

// Speakers and moderators and will be announced soon.
LUNCH
12:30 - 13:30

Plenary 7

The right ventricle - forgotten no more
13:30 - 15:30

Target audience: Clinicians, radiologists, basic scientists

Objectives:
To discuss the current methods to assess the function of the right ventricle and its impact on prognosis in pulmonary hypertension. Furthermore, the session aims to cast light on current measures of the RV-PA-Unit and to critically reflect its clinical relevance in comparison to conventional parameters of RV function. Additionally, new and well-known therapeutic approaches of RV failure will be discussed.

- Methods to assess RV contractility and diastolic stiffness. From gold-standard PV-loops to surrogates.
- How to image fibrosis and its impact on right ventricular function?
- Oestrogens and RV failure in PAH
- Right ventricular failure - new therapeutic avenue/approaches
- Best abstract presentation
  // To be announced

BREAK
15:30 - 16:00

Rapid fire poster presentation (6 selected posters)
16:00 - 16:30
3 minutes presentation plus 2 minutes discussion for each poster, mixed clinical plus basic

Moderated poster session 2
16:30 - 17:50
80 minutes each

// Speakers and moderators and will be announced soon.
**Plenary 8**

**PH and HfPEF - driving forces, ventricular interplay and therapeutic options**

(Joint Session with ESC working group on the pulmonary circulation and right ventricular function)

**Target audience:** All

**Objectives:**
To discuss the current knowledge on the mechanisms involved in the development of pulmonary hypertension and their impact on prognosis in heart failure with preserved ejection fraction (HfPEF). Furthermore, the session will handle measures of the RV/PA unit in this context under resting conditions and during exercise, highlighting RV dysfunction even at early stages of HfPEF. Finally, the potential role of established PH targeted therapies, as well as new approaches to improve PH and RV function in HfPEF will be discussed, focusing on specific haemodynamic phenotypes.

- Driving forces of PH in heart failure with preserved ejection fraction - What can we learn from animal models?
- Driving forces of PH in heart failure with preserved ejection fraction - What is established in humans?
- The right ventricle in HfPEF – RV/PA coupling at rest and during exercise.
- Is there a role for PH targeted therapies in HfPEF? Haemodynamic phenotypes and therapeutic responses

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**PVRI Gala Dinner with Salsa music**

(All welcome, including partners & guests)

Buy your ticket at the Reception Desk

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END OF DAY THREE SCIENTIFIC SESSIONS

// Speakers and moderators and will be announced soon.
Sunday 2 February 2020

PROFESSOR GHAZWAN BUTROUS LECTURE:
Future strategies to meet global health challenges

Plenary 9

Imaging in PH - from rodents to men - new insights from new technologies? 08:40 - 10:40

Target audience: Basic scientists, clinicians, physiologists, radiologists.

Objectives:
To discuss the methods and approaches for non-invasive evaluation of the right ventricular and lung function/morphology. This includes pre-clinical, translational, and clinical research on novel imaging methodologies, imaging biomarkers and probes, as well as new molecular imaging applications in diagnosis and prognosis of experimental and human pulmonary hypertension. The session will provide a platform for knowledge exchange covering basic sciences, translational aspects, as well as clinical applications.

- Echo- and CT-based imaging biomarkers in experimental PH
- Artificial intelligence to make more of clinical technologies for cardiac imaging
- Right ventricle and lung 18FLT and 18FDG PET in experimental and human PH
- Ventricular mass as a prognostic imaging biomarker in incident PAH
- Best abstract presentation
  // To be announced

BREAK 10:40 - 11:10

// Speakers and moderators and will be announced soon.
RNA therapeutics in PH - fact, future or fantasy?  

Target audience: All  

Objectives:  
Advances in RNA-sequencing techniques have led to the discovery of thousands of non-coding transcripts with unknown function. There are several types of non-coding linear RNAs, such as microRNAs (miRNA) and long non-coding RNAs (lncRNA), as well as circular RNAs (circRNA) consisting of a closed continuous loop. Among these types, lncRNAs have emerged as critical regulators of gene expression in both normal and disease states. This session will highlight current knowledge of the function of lncRNAs in pulmonary hypertension and right ventricle (RV) hypertrophy and failure. This session will also address potential therapeutic implications and the challenges of lncRNA research, with directions for future research and translational focus.

- Network analysis of RNA ignorome in PH  
- LncRNAs in pulmonary vascular remodelling  
- RNA-mediated regulation of BMPR2 in heritable and idiopathic pulmonary arterial hypertension  
- Right ventricular long non-coding RNA expression in human heart failure  
- Best abstract presentation  
  // To be announced

CLOSING REMARKS  

END OF CONGRESS  

// Speakers and moderators and will be announced soon.

FOR THOSE WHO WANT MORE SCIENCE...
Following on immediately after the PVRI Congress!

We are pleased to announce that the second scientific meeting of the International Consortium for Genetic Studies in PAH (PAH-iCon http://www.pahicon.com) will be held in Lima, sponsored by the PVRI.

The meeting immediately follows the PVRI 14th Annual World Congress and will be held at the same venue.

The meeting will include presentations and abstracts from researchers in the field of PAH genetics, and will provide an opportunity for collaborative networking and participating in future international collaborations in this rapidly evolving field.

For further information go to www.pvrinstitute.org

2nd International Consortium for Genetic Studies in PAH

Hotel // The Swisshotel • Lima • Peru

Date // 2 -3 February 2020

...STAY IN

LIMA • PERU
Today’s work...