

12th John Vane Memorial Symposium on Prostacyclin Science and Pulmonary Vascular Disease

17-18 March 2017



Foreword by Professor Chris Thiemermann, FMedSci



Dear Friends and Colleagues,

I am delighted to welcome you to the 12th John Vane Memorial Symposium on Prostacyclin Science and Pulmonary Vascular Disease which has been made possible thanks to the valued support of United Therapeutics who have once again provided us with an unrestricted educational grant.

The John Vane Memorial Symposia Series has become an important fixture on the Pulmonary Arterial Hypertension (PAH) community's busy calendar and provides participants with a valuable opportunity to learn about the very latest clinical and scientific developments in PAH from leading international experts working in this area.

This year's scientific programme includes a wealth of important advances and updates including talks on "Prostacyclins for combined postcapillary and precapillary pulmonary hypertension", "Precision medicine and the future of clinical trials in pulmonary hypertension" and the role of exercise in PAH. In addition, we are delighted to welcome Mrs Pisana Ferrari from PHA Europe, the umbrella organisation for national associations of patients living with PH in Europe. Mrs Ferrari will be giving a presentation on "The unmet needs of the patient" and this will be followed by discussion.

We welcome your participation and very much look forward to hearing our thoughts on the presentations and your experiences of working in this area over the coming days.

I wish you an informative and enjoyable symposium!

**Professor Chris Thiemermann, MD PhD FBPhS FRCP FMedSci
Chief Executive Officer, William Harvey Research Limited**

Sir John Vane, FRS, Nobel Laureate by Rod Flower, FRS

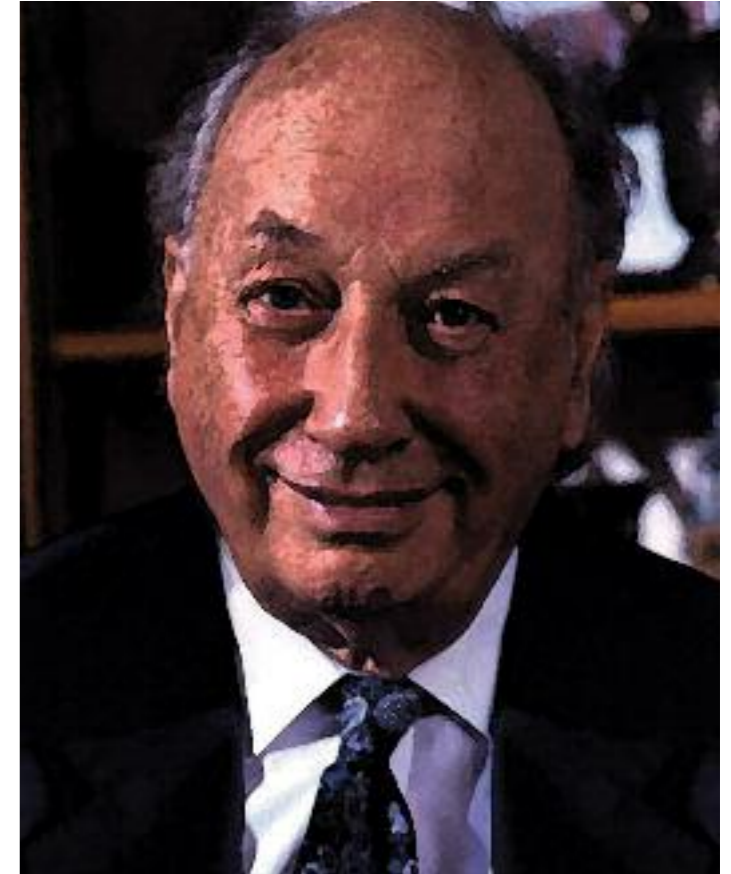
Sir John Vane was one of the pre-eminent pharmacologists of the twentieth century and, during a career spanning over 50 years, made enormous contributions to the pharmacotherapy of hypertension and inflammation.

John was born in Worcestershire and educated at King Edward VI School, Birmingham. His first degree (1946) was a B.Sc. in Chemistry at the University of Birmingham but, as he later explained to his tutor, he did not want to pursue chemistry as a career because the subject did not excite him. By chance, he was offered training as a pharmacologist under the tutelage of Professor J. Harold Burn in Oxford where he really found his métier. After obtaining his Ph.D. in 1953 John spent two years in the Department of Pharmacology at Yale University with the (then) chairman Dr. Arnold Welch.

In 1955 John returned to the UK to work with Professor W. D. M. Paton at the Institute of Basic Medical Sciences of the University of London in the Royal College of Surgeons of England. He progressed from Senior Lecturer in 1955, to Reader in 1961, and then Professor of Experimental Pharmacology in 1966. It was during his time at the 'College' that he did some of his finest work. John left the department in 1973 when he was invited to take up the post of R & D Director at the Wellcome Foundation.

In the early 1970s John and his group published research that led directly to the discovery of captopril – the first member of the angiotensin-converting enzyme (ACE) inhibitor family of medicines. ACE inhibitors are now widely used to treat high blood pressure, heart failure and kidney disease. Another strand of John's work was his research on prostaglandins for which he eventually shared the Nobel Prize for Physiology or Medicine (1982). In part this was in recognition of his discovery of how aspirin worked. He showed that this ancient drug blocked the synthesis of prostaglandins through inhibition of the enzyme now widely known as the cyclooxygenase. His work led to a clear understanding of how aspirin and similar drugs produce pain-relief and anti-inflammatory effects. It also provided an explanation for how aspirin helps prevent blood clots, heart attacks and strokes and is one reason why aspirin remains one of the most commonly used medicines for treating people with heart disease. At Wellcome, John and his colleagues also discovered prostacyclin, a key protective factor that helps keep blood vessels healthy. Prostacyclin is a vasodilator prostaglandin that helps prevent blood clots by reducing the stickiness of platelets.

John left the Wellcome Foundation in 1986, aged 59. An invitation from St Bartholomew's Hospital Medical School, brokered by an old friend, Derek Willoughby, and an offer of start-up funding from Glaxo Group Research, gave John the opportunity to begin another venture. He was joined by Erik Änggård, Nigel Benjamin, Iain MacIntyre, David Tomlinson, Brendan Whittle, Willoughby and old colleagues Gustav Born and Rod Flower. From this confluence of research groups arose the William Harvey Research Institute.



Major funding from Ono Pharmaceuticals in Japan enabled the Institute to expand rapidly and it soon became a veritable pharmacological powerhouse, with a staff of over 120 people, specialising in research into inflammation and cardiovascular disease and focusing especially on inhibitors of COX-2, and the interplay between nitric oxide and endothelin in the regulation of vascular function. John continued to influence the scientific direction of his group and even found time to start up (with Änggård) a new company, Vanguard Medica Ltd. (now Vernalis). He retired as full-time director of the Institute in 1995 but remained Honorary Chairman of the charitable William Harvey Research Foundation until his death in 2004.

During his lifetime John attracted many awards and honours in addition to the Nobel Prize; in 1974 he was made a Fellow of the Royal Society, in 1977 he won the Albert Lasker Basic Medical Research Award and in 1984 he was knighted for services to pharmaceutical science. Over fifty other honorary degrees and fellowships followed over the years.

John had a unique style of working. In 1978 he wrote 'I have always believed in using simple methods, which give results so quickly that the design of the experiment can be modified as it progresses'. It is a style of working that all of us at the William Harvey seek to emulate.

17 March 2017

8.30-9.30am Registration, tea and coffee

9.30am Welcome
Chris Thiemermann, Queen Mary University of London, London, UK

Pathophysiology of Pulmonary Hypertension

Chairs: Robert Naeije, Université Libre de Bruxelles, Belgium
Brendan Whittle, Queen Mary University of London, UK

9.45am Prostacyclin – The Born vs. Vane debate
Clive Page, King's College London, UK

10.15am Endothelial dysfunction and inflammation in pulmonary hypertension
Christophe Guignabert, University of Paris-Sud, France

10.45am Role of chymase in pulmonary hypertension
Ralph Schermuly, University of Giessen, Germany

11.15am Refreshments

Exercise and Pulmonary Hypertension

11.45am Exercise-induced pulmonary hypertension
Robert Naeije, Université Libre de Bruxelles, Belgium

12.15pm Exercise testing in the assessment of pulmonary hypertension including observations of peripheral muscle
Paul Corris, University of Newcastle, UK

12.45pm Lunch

Prostacyclins and Pulmonary Hypertension

Chairs: Paul Corris, University of Newcastle, UK
Irene Lang, Medical University of Vienna, Austria

2.00pm Prostacyclins for combined postcapillary and precapillary pulmonary hypertension
Irene Lang, Medical University of Vienna, Austria

2.30pm Treprostinil decreases right ventricular contractility but improves ejection fraction and exercise capacity in pulmonary arterial hypertension
Franz Rischard, University of Arizona College of Medicine, USA

3.00pm Is there a therapeutic opportunity for prostacyclins in patients with pulmonary hypertension secondary to primary pulmonary disease?
Aaron Waxman, Brigham and Women's Hospital, Boston, USA

3.30pm Refreshments

4.00pm Sickle-cell disease and pulmonary hypertension
Mark Gladwin, University of Pittsburgh, USA

4.30pm Schistosomiasis and pulmonary hypertension
Carlos Jardim, University of São Paulo & GSK, Brazil

5.00-6.30pm Meeting adjournment and evening reception

18 March 2017

9.30am Tea and coffee

Clinical Aspects of Pulmonary Hypertension

Chair: Marc Humbert, University of Paris-Sud, Paris, France

9.30am The role of iron in pulmonary hypertension
Luke Howard, Imperial College, London, UK

10.00am Imaging as an endpoint for the assessment of pulmonary hypertension
Andrew Peacock, University of Glasgow, Glasgow, Scotland

10.30am Precision medicine and the future of clinical trials in pulmonary hypertension
Stuart Rich, North-Western University Feinberg School of Medicine, Chicago, USA

11.00am Refreshments

The Pulmonary Hypertension Patient

Chair: Luke Howard, Imperial College, London, UK

11.30pm Genetic counselling in a pulmonary hypertension referral centre
Marc Humbert, University of Paris-Sud, France

12.00pm The unmet need of the pulmonary hypertension patient
Pisana Ferrari, European Pulmonary Hypertension Association, Berlin, Germany

12.20pm Moderated discussion

Discussants:

Pisana Ferrari, CEO, European Pulmonary Hypertension Association, Berlin, Germany
Wendy Gin-Sing, Clinical Nurse Specialist, Imperial College, London, UK
Jenesis Rothblatt, PAH patient of 28 years, United Therapeutics Inc., USA

1.00pm Lunch

2.30pm Close of meeting

John Vane Memorial Symposium 2016

The 2016 Symposium was the 11th in the, now well established, John Vane Memorial Symposia series. We welcomed just over 160 participants from 24 countries including, once again, Lady Vane, the wife of the late Sir John.

The 11th John Vane Memorial Symposium showcased the latest scientific and clinical developments in PAH, and included sessions on "Aspects of Survival and Heart Failure in PAH" and the latest "Trials and Targets in PAH". There was also an interactive pro-con debate on whether combination therapy should be immediately given to patients with PAH which was very well received and generated much discussion amongst participants.

Professor Chris Thiemermann, CEO of William Harvey Research Limited and Faculty Chair of the John Vane Memorial Symposium says "I am delighted to continue to welcome friends and colleagues, many of whom are annual returnees, to this symposium series. Our congress has now become an important milestone in the PAH calendar and provides a great opportunity for participants to listen, learn and discuss the latest PAH research. The 11th meeting in this series was a resounding success."

We hope you enjoy looking at some of the selected images from last year's symposium.



Robert Naeije



Audience participation



Professor David Smadja



Professors Naeije, Haworth and White



Engaged participant



Panel Discussion

William Harvey Research[®] Limited

Contract Research

WHRL has been leading the way as a contract research organisation (CRO) for the biotech and pharmaceutical sectors for over 20 years, both nationally and internationally. It offers a preclinical drug evaluation service specialising in models of cardiovascular and inflammatory diseases. Many clients come to WHRL by recommendation, value the quality of the service provided and continue to entrust WHRL with their studies.

WHRL offers a highly differentiated service based on efficiency, reliability and quality. More than 120 disease models and a broad range of techniques are available. Following each study, a comprehensive report of the findings is provided, including full statistical analysis and interpretation of data. This saves valuable time and money for clients, as well as directing them on the most appropriate next steps to develop their compound. WHRL's senior scientists also offer one-to-one discussions and advice on clients' preclinical testing needs. These benefits are not usually available through a conventional CRO.

Academic Fellowships

WHRL works with HCA International Ltd, which funds academic fellowships in biomedical research. These specialist medical trainees recruited by WHRL for academic research, primarily at Queen Mary University of London, additionally provide resident medical officer services to private hospitals in London, representing a considerable investment by the sector in academic biomedical research and high-quality patient care.

Scientific Conferences

WHRL arranges prestigious scientific meetings on recent developments in biomedical research. WHRL has more than 20 years' experience organising national and international scientific conferences, and established in 2006 the annual John Vane Memorial Symposium on Prostacyclin Science and Pulmonary Vascular Disease. This attracts over 200 delegates each year from around 25 countries and is accredited with CPD points. WHRL also offers an expert conference-organising service utilising its considerable experience.

Shareholders

WHRL is a business wholly committed to furthering preclinical research into cardiovascular disease and inflammation for translational and therapeutic purposes. Its profits are gift aided to its majority shareholder, the William Harvey Research Foundation, which in turn awards grants for such preclinical research. Grants amounting to over £10m have been awarded by the WHRF to date. WHRL works primarily but not exclusively at the central London facilities of the William Harvey Research Institute at Barts Medical School, Queen Mary University of London, WHRL's minority shareholder.



17-18 March 2017 Royal Society, London, UK

Faculty Chair

Professor Chris Thiemermann, Queen Mary University of London, London, UK

Faculty

Professor Paul Corris, University of Newcastle, UK

Professor Luke Howard, Imperial College, London, UK

Professor Marc Humbert, University of Paris-Sud, France

Professor Irene Lang, Medical University of Vienna, Austria

Professor Robert Naeije, Université Libre de Bruxelles, Belgium

Professor Brendan Whittle, Queen Mary University of London, London, UK

Approved by the Federation of the Royal College of Physicians for 8 category 1 (external) CPD credits

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