

# Scientific Organisation

**Prof Jean Krutmann, M.D.**

Scientific Director

IUF – Leibniz Research Institute for Environmental Medicine,

Düsseldorf

**Dr Caradee Wright**

Specialist Scientist at the Environment and

Health Research Unit

South African Medical Research Council, Johannesburg

## Contact

**Dr Jan Nissen**

German National Academy of Sciences Leopoldina

Department of International Relations

Phone: +49 (0)345 472 39 834

Email: [jan.nissen@leopoldina.org](mailto:jan.nissen@leopoldina.org)

## Venue

Haus der Universität (House of the University)

Schadowplatz 14 | 40212 Düsseldorf

The **German National Academy of Sciences Leopoldina** brings together the expertise of some 1,500 distinguished scientists to bear on questions of social and political relevance, publishing unbiased and timely scientific opinions. The Leopoldina represents the German scientific community in international committees and pursues the advancement of science for the benefit of humankind and for a better future.

The **Academy of Science of South Africa (ASSAf)** aspires to be the apex organisation for science and scholarship in South Africa, recognised and connected both nationally and internationally. Through its membership which represents the collective voice of the most active scholars in all fields of scholarly enquiry, ASSAf aims to generate evidence-based solutions to national problems.



# Joint Symposium

## “Air Pollution and Health: New Research Perspectives for a Growing Global Crisis”

Air pollution is a crisis with global impact: 92% of the world's population lives in places where air quality levels exceed WHO limits and 3 million deaths a year are linked to exposure to outdoor air pollution. The resulting three main health challenges are: (i) on-site-measurements to determine the true exposure situation, (ii) population-based epidemiological studies to identify the resulting health effects and (iii) mechanistic studies on air pollution-induced health damage in order to be able to develop tailored preventive strategies. In order to be effective, it is crucial that all three challenges are tackled at the same time in an integrated research approach. Because of their specific socio-economical situation, different countries have very different priorities when it comes to meet these challenges. The goal of this symposium is therefore to foster international exchange and collaborations between scientists from South Africa, BRIC States and Germany in an attempt to overcome these differences.

The scientific coordinators of the symposium are Professor Jean Krutmann ML, Scientific Director of the IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany, on the side of Leopoldina; and on the side of ASSAf, Dr Caradee Wright, Specialist Scientist at the South African Medical Research Council, Johannesburg, South Africa.

In 2015, the Leopoldina and the Academy of Science of South Africa (ASSAf) initiated a joint series on environment and health. The upcoming symposium is the second event within this series and it takes place in cooperation with the IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf.

ML = Member of Leopoldina

### Registration

Participation is free of charge. For participation in the symposium, please kindly register here until 30 October 2017: [www.leopoldina.org/de/air-pollution](http://www.leopoldina.org/de/air-pollution)

Find us on



[www.leopoldina.org](http://www.leopoldina.org)  
[www.assaf.org.za](http://www.assaf.org.za)  
[www.iuf-duesseldorf.com](http://www.iuf-duesseldorf.com)

## Air Pollution and Health: New Research Perspectives for a Growing Global Crisis

Joint Symposium by the German National Academy of Sciences Leopoldina and the Academy of Science of South Africa (ASSAf)

7-8 November 2017

Haus der Universität (House of the University)  
Schadowplatz 14 | 40212 Düsseldorf

In cooperation with the **IUF – Leibniz Research Institute for Environmental Medicine**, Düsseldorf.

**IUF**

LEIBNIZ RESEARCH  
INSTITUTE FOR  
ENVIRONMENTAL  
MEDICINE



# Programme

## Tuesday, 7 November 2017

### 9:00–9:30 | Registration

### 9:30–10:00 | Welcome Addresses

Prof Jörg Hacker ML  
Leopoldina President

Prof Matthias Kleiner ML  
*Leibniz Association President*

Prof Angela Mathee  
ASSAf

### Session 1: Indoor Air Quality

**Facilitator:** Prof Jean Krutmann ML  
*IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf*

### 10:00 – 10:30

#### An Overview of Contextual Factors Associated with Exposure to Indoor Air Pollution in South Africa

Prof Angela Mathee  
*South African Medical Research Council, Johannesburg*

### 10:30 – 11:00

#### Black Carbon and Ultrafine Particles: Ambient and Indoor

Prof Alfred Wiedensohler  
*Leibniz Institute for Tropospheric Research, Leipzig*

### 11:00 – 11:30 | Coffee Break

### Session 2: Black Carbon

**Facilitator:** Dr Caradee Wright  
*South African Medical Research Council, Johannesburg*

### 11:30 – 12:00

#### Combustion, Black Carbon and Climate: Divergent Strategies from South Africa and Beyond

Prof Harold Annegarn  
*North-West University, Potchefstroom*

### 12:00 – 12:30

#### Particulate Air Pollution and the Brain – Effects and Mechanisms

Dr Roel Schins  
*IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf*

### 12:30 – 13:30 | Lunch Break

### Session 3: Pollution and Health Effects (1): Low Level Pollution

**Facilitator:** Prof Ulrich Pöschl  
*Max Planck Institute for Chemistry, Mainz*

### 13:30 – 14:00

#### Emissions Impact on Urban Air Quality and Commuters' Exposure to Fine Particles in the São Paulo Metropolitan Area, Brazil

Prof Maria de Fatima Andrade  
*University of São Paulo, São Paulo*

### 14:00 – 14:30

#### Interactions between Air Pollution and Temperature in a Climate Change Context: A South African Health Perspective

Dr Caradee Wright  
*South African Medical Research Council, Johannesburg*

### 14:30 – 15:00 | Coffee Break

**Facilitator:** Prof Haidong Kan  
*Fudan University, Shanghai*

### 15:00 – 15:30

#### Increasing Levels of Pollutants in the Indian Region: Effects on Health and Crop Yields

Prof Shyam Lal  
*Physical Research Laboratory, Ahmedabad*

### 15:30 – 16:00

#### Health Effects of Air Pollution

Dr Tamara Schikowski  
*IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf*

### 16:00 – 16:30 | Concluding Remarks

Prof Jean Krutmann ML  
*IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf*

Dr Caradee Wright  
*South African Medical Research Council, Johannesburg*

### 17:00 | Evening Keynote and Reception

#### WHO's Perspectives on Air Pollution and Health

Sophie P. Bonjour Gummy  
*World Health Organization, Geneva*

## Wednesday, 8 November 2017

### Session 4: Pollution and Health Effects (2): Modifying Factors

**Facilitator:** Prof Angela Mathee  
*South African Medical Research Council, Johannesburg*

### 9:30 – 10:00

#### Urban Climate and Its Influence on Inhabitants' Thermal Comfort under Global Changes

Prof Pavel Konstantinov  
*Lomonosov Moscow State University, Moscow*

### 10:00 – 10:30

#### Air Pollution, Oxidative Stress, and Public Health in the Anthropocene

Prof Ulrich Pöschl  
*Max Planck Institute for Chemistry, Mainz*

### 10:30 – 11:00 | Coffee Break

**Facilitator:** Dr Tamara Schikowski  
*IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf*

### 11:00 – 11:30

#### Outdoor Air Pollution, Health Impact and Interventions in China

Prof Haidong Kan  
*Fudan University, Shanghai*

### 11:30 – 12:00

#### Air Pollution and Poverty: The Perfect Storm for Adverse Childhood Respiratory Health in Developing Countries

Prof Rajen Naidoo  
*University of Kwazulu-Natal, Durban*

### 12:00 – 12:15 | Concluding Remarks

Prof Jean Krutmann ML  
*IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf*

Dr Caradee Wright  
*South African Medical Research Council, Johannesburg*