

2022 International Solvay Chair in Chemistry



Professor Daniel Jacob
(Harvard University, USA)

Inaugural Lecture

TUESDAY 10 MAY 2022 AT 4:00 PM

Methane in the climate system: mapping emissions from satellites

Methane is a major greenhouse gas, and controlling methane emissions is central to a climate policy of avoiding two degrees of danger. But the sources of methane and the causes of the current rise are poorly understood. Here I will show how new satellite observations of atmospheric methane can play a crucial role in better quantifying methane emissions from the global scale down to point sources, providing a global monitoring system in support of climate action.

COFFEE AND TEA WILL BE SERVED AT 3:45 P.M. AND DRINKS AT 5:00 P.M IN FRONT OF THE SOLVAY ROOM

LECTURE 1 ON FRIDAY 13 MAY 2022 AT 10:00 AM

The tropospheric ozone saga

Tropospheric ozone is of central interest for atmospheric chemistry as an air pollutant, as a greenhouse gas, and as the primary precursor for the main atmospheric oxidant (OH). Despite decades of extensive observations and modeling, there are still fundamental gaps in our understanding of global tropospheric ozone and its trends. Here I will review current understanding of the mechanisms controlling tropospheric ozone including new developments related to precursor emissions, heterogeneous chemistry, and halogen chemistry.

LECTURE 2 ON TUESDAY 17 MAY 2022 AT 2:00 PM

Evolving understanding of air pollution: lessons from East Asia

High pollutant concentrations and rapidly changing emissions in China and Korea offer new insights into the chemical processes driving air pollution and the highly non-linear relationships between emissions and concentrations. Here I will present an overview of air pollution chemistry including new developments motivated by the interpretation of pollutant trends in East Asia. I will discuss the transformative potential of new geostationary satellite observations for air pollution monitoring.

SOLVAY ROOM
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