

Solvay Colloquium



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How does the Earth's atmosphere maintain its self-cleaning capacity?

Millions of tons pollutants and greenhouse gases are emitted per year, and then photochemically oxidized. Subsequently, the oxidation products are removed by deposition processes. In the absence of this self-cleaning mechanism, or when it weakens, our atmosphere would become toxic and create a hot-house effect. The atmospheric oxidation mechanism is primarily determined by hydroxyl (OH) radicals. Key questions are: Is the oxidation capacity reduced by the worldwide growing pollution emissions? To what extent is it buffered by OH recycling? How do regions with specific photochemical and pollution characteristics act together through atmospheric transport at a global scale? Atmospheric chemistry and climate models have neglected OH recycling in the oxidation of natural hydrocarbons, which are emitted in large quantities by the vegetation. New approaches need to do justice to the intricate interactions between reactive carbon, nitrogen species and oxidants. These interactions give rise to a global buffering mechanism that can maintain the self-cleaning capacity of the atmosphere.

Thursday 2 March 2017 at 4.00 P.M.

**COFFEE AND TEA WILL BE SERVED AT 3.45 P.M.
IN FRONT OF THE SOLVAY ROOM**

SOLVAY ROOM

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