



# Surrey U3A Network

## Earth's Atmosphere – Our Life Support System

A Study Day on Friday 19<sup>th</sup> April 2024 at The Menuhin Hall, Stoke d'Abernon

### Speaker – Professor David Phillips, CBE, FRS

#### Introduction

This study day covers the development of the Earth’s atmosphere over geological time and the impact of man on the atmosphere since the Industrial Revolution. The great London Smog, the Hole in the Ozone Layer and the recognition of Global Warming have all occurred in our lifetimes. Society has significantly tackled the first two challenges and now we face the third and greatest challenge.

#### Programme

- 9.30 Registration
- 10.00 **Origins of the Earth Atmosphere** – Geological timescales, mass extinctions. Structure & composition of the current Earth Atmosphere. Comparison with nearby planets. The source of the oxygen, unique to Earth’s Atmosphere.
- 11.00 Coffee / Tea
- 11.30 **The Stratosphere** – Temperature profile & chemical mechanism of the heating of the stratosphere. The ozone layer, our UV shield. Chain reactions which deplete the ozone, both natural [the HO<sub>x</sub> & NO<sub>x</sub> cycles] & man-made [the ClO<sub>x</sub> cycle]. The “ozone hole”. Chlorofluorocarbons & the Montreal protocol banning these. Repair of the ozone depletion.
- 12.30 Lunch – Bring-Your-Own – Tea / Coffee available
- 1.30 **The Troposphere** [in which we live]. Meteorology, weather. Pollution – acid rain [deposition], sulphuric & nitric acids, solving the problems. The great London 'Smog' of December 1952. The Clean Air Act. Los Angeles type 'photochemical smog' causes & solution via catalytic converters. Removal of lead. Remaining problems, oxides of nitrogen & combustion engine particulates. ULEZ.
- 2.30 Tea / Coffee
- 3.00 **Greenhouse Effect & Climate Change**. Greenhouse gases – methane, water, carbon dioxide, Freons & their effects. Sources of carbon dioxide – shipping, internal combustion engines, power production, curing of concrete. Sources of methane – ruminants, vegetation decay, fossil fuel leaks. Carbon dioxide over Earth history, correlation with mean global temperature, modelling, ocean acidification. Current predictions for climate change, & can we stop it?

**To Book – Members should send the slip below**, with a cheque for £12 (or £15 for a Guest), payable to Surrey u3a Network, to Denise Dobbs – u3a, 5 Aldridge Rise, New Malden KT3 5RJ, Phone 07964 798791. Enclose an SAE or an email address for confirmation.

**Or make a bank transfer** to HSBC Account No. 11519018 Sort Code 40-27-07, Event Ref. Apr 24, and send an email to – [surreyu3astudyday@outlook.com](mailto:surreyu3astudyday@outlook.com) – with the booking information below.

**ATMOSPHERE      Member £12      Guest £15      19<sup>th</sup> April 2024**

**Please Tick** – Attend Hall  or Virtually  ; Email  or SAE  ; Cheque  or BankTrsf .

Title ..... First Name ..... Surname ..... Name of u3a .....

House Number/Name. .... Post Code ..... Phone.....

E-mail Address .....

If you need disabled parking, tick  and give a car registration number .....

If you need a wheelchair space in the hall, tick  or a step-free seat, tick .

If you would like to receive details about future study days by email, please tick here .

## Biographical Information about our Speaker

**David Phillips** is Professor Emeritus at Imperial College London, having moved to Imperial in 1989 after ten years as Deputy Director at the Royal Institution, London. He is a chemist, specialising in photochemical reactions, and is the author of more than 600 papers in the scientific literature. He was awarded OBE in 1999 and CBE in 2011 for services to science and science education. He was President of the Royal Society of Chemistry, 2010–2012, and elected Fellow of the Royal Society, 2015

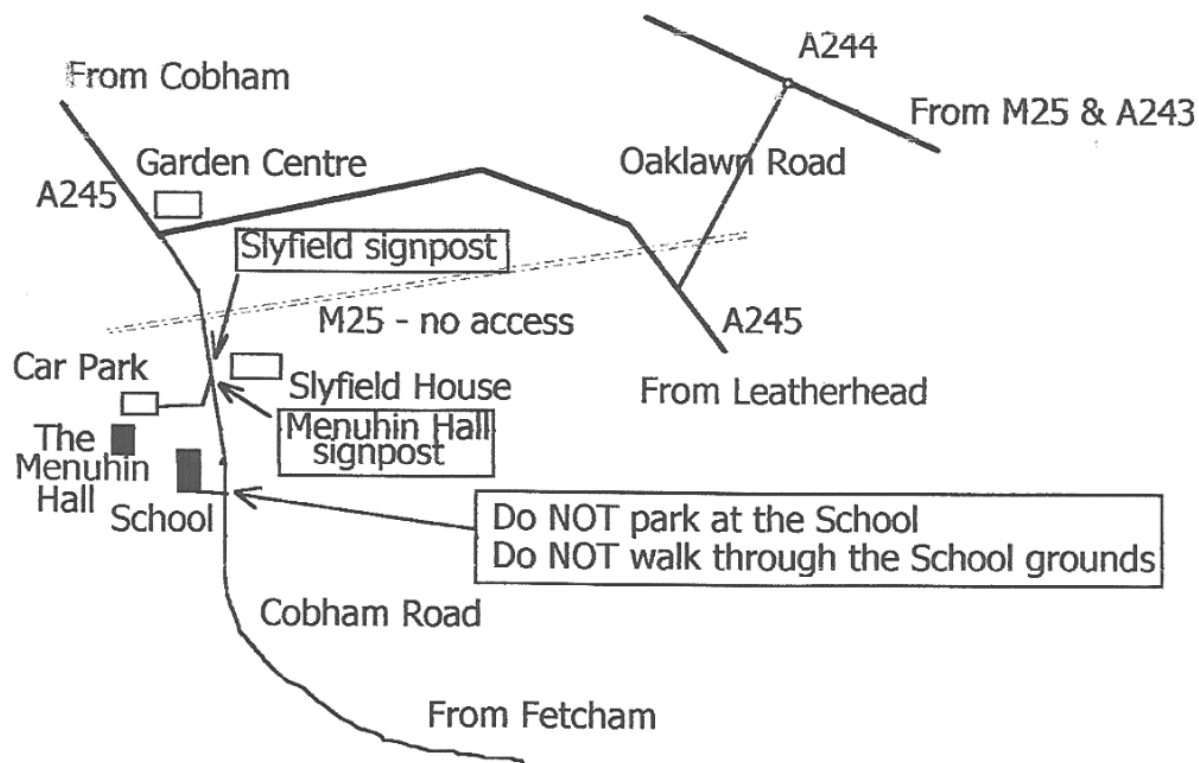
## Location & Contact Details for Study Day

The Menuhin Hall, Cobham Road, Stoke d'Abernon, Surrey KT11 3QQ

Map Ref: TQ 132 579 on Landranger 187 & Explorer 146

Telephone 07763 805046 (Emergency - On-Day-Only) or Menuhin Hall Office 08700 842020

There is a Garden Centre (01932 862530), about 800 metres to the north of the Menuhin Hall where light lunches are available. Reservations are not required.



**The Menuhin School** was founded in 1962 in London and moved to its present site in 1964. It has around eighty pupils learning to play stringed instruments including piano and is financed, in part, by the DfE. Lord Menuhin was born in New York on 22<sup>nd</sup> April 1916 and died on 12<sup>th</sup> March 1999 in Berlin. His parents had come from Russia. His first public concert was in March 1924 and his first in Europe, in Paris, in 1927. His performance of Elgar's Violin Concerto was recorded at the Abbey Road Studios in 1932. The Hall, designed by Mark Foley, was conceived as a memorial to Yehudi and was handed over to the school on 5<sup>th</sup> August 2005. The official opening was on 7<sup>th</sup> January 2006. Yehudi is buried by the stone pillar in front of the Hall. Nearby is an oak which he planted on his 80<sup>th</sup> birthday. The Hall was first used for a Surrey Network Study Day on 14<sup>th</sup> October 2005.



# Surrey Network

## Study Days at the Menuhin Hall

**Surrey Network Study Days** – After an eighteen-month gap, study days at The Menuhin Hall resumed in September 2021. We welcome members to our study days in the hall, as in the past, while also making it possible to view the study days remotely.

**Advertising & Booking** – The practice of applying by post or by email will continue, with booking responses being sent as members chose, while payment can be made by cheque or bank transfer. We have discussed using on-line booking and consider that this is our likely next step, but the workload in setting up the programme for 2024 is our first priority. We advertise the study days with full details and booking forms on our website – <http://u3asites.org.uk/surreyu3anetwork/> and circulate the information electronically to all u3as in Surrey Network and surrounding areas. We also electronically circulate a poster suitable for advertising the future programme on display boards or websites.

**Nut Allergies** – The Menuhin School has pupils who have an allergic reaction to nuts and the staff have taken the decision to make the school and the Menuhin Hall a nut-free environment. Please ensure that your lunch does not contain any trace of nuts.

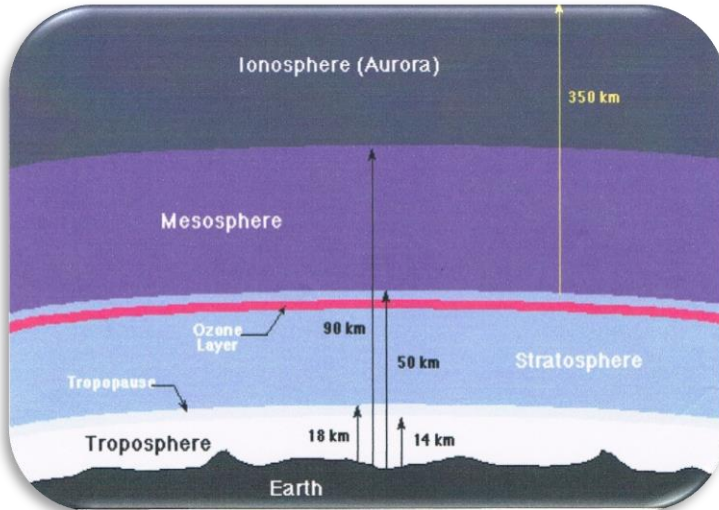
**Disabled Parking** – There are six spaces behind the hall and there are more in the main car park. If you have a blue badge and need level access to the hall, then tick Disabled Parking on the booking slip; you will then be allocated a space at the back of the hall and sent a permit. There is a drop-off space where disabled members have level access to the hall.

**Wheelchair Spaces** – If you need a seat removed in the hall to accommodate a wheelchair then tick Wheelchair on the booking slip.

**Support for Network Committee** – The study days have been running successfully for nineteen years. New volunteers with ideas for the future programme and the commitment to help run future study days will be made very welcome. Our website is based on the u3a software Site Builder, and as a transfer to a new system is required in 2024 some help with the website would be very welcome. Contact Surrey Network Chairman, Caroline Sawers, on 01483 560590 with offers of help.

# *Surrey u3a Network Study Day*

## **Earth's Atmosphere – Our Life Support System** **Presented by Professor David Phillips, CBE, FRS**



**The Menuhin Hall, Stoke d'Abernon**  
**Friday 19<sup>th</sup> April 2024**  
**9.30am Registration - Tea and coffee provided**

**Member £12 Guest £15**

To book Members should send a completed booking slip with a cheque for £12 or £15 for a Guest, payable to Surrey u3a Network, or bank transfer to HSBC Account No. 11519018 Sort Code 40-27-07, Event Reference Apr 24, to Denise Dobbs – u3a, 5 Aldridge Rise, New Malden KT3 5RJ, Phone 07964 798791 or email to – [surreyu3astudyday@outlook.com](mailto:surreyu3astudyday@outlook.com)