

Surrey Network

Quarks, the Universe, and Everything

A Study Day on Friday 20th October 2023 at The Menuhin Hall, Stoke d'Abernon

Speaker – Professor Philip Harris

This study day is a gentle exploration of the basic particles and fundamental laws governing our universe. Philip Harris retired from the University of Sussex in 2021 and now chairs the Science and Computing Faculty of Guildford u3a. See next page for further biographical information.

Programme

- 9.30 Registration
- 10.00 Scales of the Universe: a Journey through Space and Time We will take a tour to explore nature from our everyday surroundings to the very largest and smallest structures that we know of, along with a brief history of cosmic evolution from the Big Bang to the present day.
- 11.00 Coffee / Tea
- 11.30 Fundamental particles: Meet the Family Quarks, mesons, leptons... The Universe is filled with all sorts of strange exotic particles, with curious names, extraordinary properties, and an utterly confusing taxonomy. In this session we will take a gentle stroll through the landscape, exploring some of the history behind the subject and seeing how these tiny particles actually manage to combine in an orderly fashion to create the world that we know and love.
- 12.30 Lunch Bring-Your-Own Tea / Coffee available
- 1.30 Symmetries in Physics, and the Mystery of the Missing Antimatter There is beauty in symmetry -- and a deep and powerful connection between the symmetries of nature and the most fundamental laws of physics. In this session we will explore some of these symmetries and their consequences for our existence.
- 2.30 Tea / Coffee
- 3.00 **The Ghostly Neutrino** Neutrinos are mysterious, almost ethereal particles; for the most part they will happily flit through the entire Earth without interacting at all. There are tantalising hints though that their extraordinary quantum properties may yield clues to the resolution of deep and fundamental questions affecting the origin and evolution of everything in the Universe. The talk will discuss what they are, where they come from, how we study them and what we can learn by doing so.

.4.00 Departure

To book Members should send the slip below, 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 Oct23, to Denise Dobbs – u3a, 5 Aldridge Rise, New Malden KT3 5RJ, Phone O7964 798791 or send an email to – surreyu3astudyday@outlook.com. Enclose a SAE or an e-mail address for confirmation.

Biographical Information about our Speaker

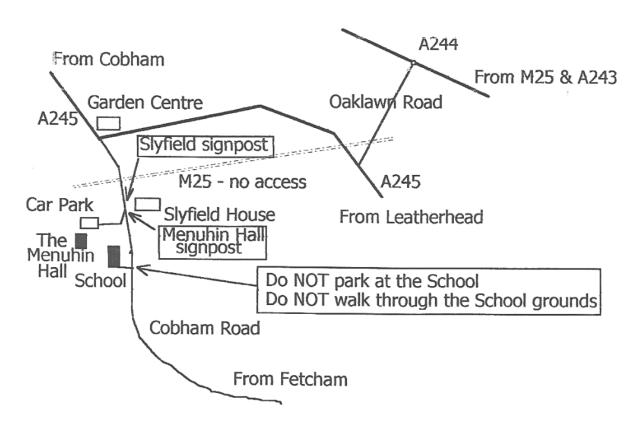
Philip Harris is Emeritus Professor of Physics at the University of Sussex. He took his undergraduate degree at Oxford, and, after a short spell as a secondary-school teacher in Essex, he completed his PhD at the University of New Mexico in 1990. His career has focused on precision measurements of some of nature's fundamental particles, which has led him to work at laboratories worldwide: Los Alamos, CERN, Fermilab, the Institut Laue-Langevin in Grenoble, and PSI in Switzerland. At Sussex he led the Experimental Particle Physics group from 2002–2011, then became Head of Physics and Astronomy, and subsequently Head of the School of Mathematical and Physical Sciences. He retired in the summer of 2021 and is now a member of Guildford U3A.

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 22nd April 1916 and died on 12th 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 5th August 2005. The official opening was on 7th January 2006. Yehudi is buried by the stone pillar in front of the Hall. Nearby is an oak which he planted on his 80th birthday. The Hall was first used for a Surrey Network Study Day on 14th 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 2023 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. In the past we posted booking forms to all those u3as but as the great majority of members have internet access and due to the work involved, we have decided to discontinue that service. We have been electronically circulating a poster suitable for advertising the future programme on display boards or websites and this will continue. The booking fee was £9 when the study days started in 2004 and has been £10 for the last five years. The fee rose to £12 in 2022. The fee for virtual attendance fee will rise to the same figure in 2023 to enable us to cover our costs. The fee for guests will remain at £15. Further information is given above, including the booking form, details of the programme and the speaker's background.

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.

Appreciation of Team Members and Plea for Support – Over the period of lock-down and more recently we were very sad to hear that five team members had passed away due to various causes and we wish to acknowledge the valuable support they gave for many years; Arthur Browne, Horley u3a, Alison Gaitonde, Banstead u3a, John Harbridge, Dorking u3a, Sheila Hill, Fetcham u3a and Sheila Pomfret, Bookham u3a. The study days have been running successfully for eighteen years and new volunteers with ideas for the future programme and the energy to help run the 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 2023 some extra support for the website would be very welcome.

Please contact Surrey Network Chairman, Cher Palmer, on 01293 784313 with offers of help.

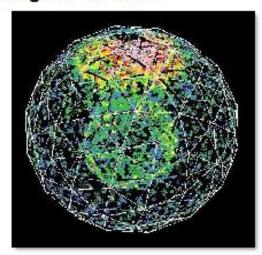
Surrey u3a Network Study Day

Quarks, the Universe, and Everything

Presented by Prof. Philip Harris

A gentle exploration of the basic particles and fundamental laws governing our Universe









The Menuhin Hall, Stoke d'Abernon Friday 20th October 2023 Registration 9.30am