Lichfield Science & Engineering Society

LICHFIELD GARRICK Theatre & Studio

PATRON
Mr Ian Dudson CBE, KStJ
HM Lord Lieutenant of Staffordshire

CHAIRMAN
Mike Beeson

PRESIDENT
Professor Rik Bryan
MBChB PhD MRCS FAcadTM

FUSION POWER: WITHIN OUR GRASP?

Robin Stafford Allen FImechE

8:00 pm on Wednesday, 10th May 2023

In the Studio Theatre of the Lichfield Garrick

Robin Stafford Allen started his professional life in the Motor Industry with a branch of Vauxhall/Bedford in Luton. Later he worked for several years on the engineering of the first generation of MRI Body Scanner magnets with Oxford Magnet Technology, then part of Oxford Instruments, now Siemens Magnet Technology. In 1992 he joined Culham to help develop Fusion Energy and worked in Cryogenics and in the Heating and Fuelling of plasmas. He retired in 2015 but still lectures part-time on Mechanical Engineering at Oxford Brookes University.

The world faces a growing problem with energy for its population, which is growing at an astounding rate. As the standard of living also rises, the demand for energy is rising faster than the population growth rate. The vast majority of the world's energy comes from fossil fuel. This cannot continue indefinitely as oil reserves are finite and Global Warming means we may face a serious food shortage if the climate changes radically.

Renewables are providing only a few percent of the energy for the world and all renewables, with the exception of hydroelectric, are "in addition" to power stations and not " instead of", so cannot be relied upon for continuous or "base-load" energy supply.

Nuclear fission has contributed a significant amount to the base-load supply but there are issues with this technology, and so researchers are examining using Nuclear Fusion. This is the process that keeps the sun hot as hydrogen is transmuted into helium, releasing energy in the process.

The talk will cover this world energy issue and then move on to showing what Nuclear Fusion is, and how it is being researched using the machines in the UK (JET) and the latest machine in France (ITER). It will endeavour to show the progress toward putting Fusion-generated electricity onto the grid within our lifetime.

The lecture will be preceded at 7:30 pm by the Society's AGM

For further information, please see our website at www.LSES.org.uk
Students and Members Free.
Visitors £7.00. Tickets are not issued in advance, please pay at the door.
Members must sign in. Those signing in before 7:50 pm will have precedence over all visitors.
This lecture is expected to finish by 9.30 pm.

.