



## Chairman's Christmas Newsletter 2024

Dear Member

Firstly, it gives me great pleasure to report that a large number of new members have joined the Society, since my previous Newsletter – Dominic Allen, Diana Jones, Christopher Kelly, Ann Chapman, Peter Woolgar, Malcom Payne, Stephen Baker, Martin Rowley, Terry Organer, Ben Wykes, Derek Lord, Janet Lord, Michael Gulliford, Alan Holmes, Terry Bailey, Stephen Blundell, Richard Whitehurst, Maria Freeman, Susan Wellstood-Eason, Adam Hicks, Nina Dawes, Steve Heath, Alfred Gowdy, Paul Brettel, Raquel Gil-Cazorla, Joshua Brown, Brian, Emma Douglas-Boisson-Smith, Joshua Douglas-Boisson, Gareth Roberts, Karen Wilby, Dennis Muxworthy, Paul Mckay. David Smith, Colin Beresford, Clive Mander, Heather Sims, James Pickering, Michael Fabricant. Our Treasurer, Peter and Membership Secretary, Bob, have coped well with this significant influx.

Sadly, Burton Engineering Society (BES), with which the LSES has had a time-honoured reciprocal arrangement, had to close following its September AGM. I have written to all the BES members, offering them formal membership of LSES and I am pleased to say we have received applications from three former members of the BES. Welcome to all our new members and I hope you will enjoy your association with the Society.

The recent increases in both lecture attendances and Membership is, without doubt, due largely to Mike and Claire expanding our profile in the local newspaper and on social media.

Regrettably, I have to report the death of longstanding member, Martin Jenkins and we convey our condolences to his family and friends.

**Special Birthday** – Past President Fred Mitchell will be 103 on 21<sup>st</sup> December and I am sure you would all like to join me in wishing Fred a wonderful birthday.

**Committee** – I am pleased to inform the membership that David Dimeloe has agreed to serve on the Committee and was co-opted at the last Committee Meeting, as permitted by our Constitution. David has jumped in at the deep end and agreed to update the Society's archives with Stafford Record Office.

### Educational Support

1. Six Student Awards have been made for 2024 from the Society's Educational Fund.  
**Friary School:** Matthew Allen, top grades in GCSEs – studying A Level Sciences.  
**Chase Terrace Academy:** Jamie Youll, 2A\* and 1A at A Level – reading Medicine at Birmingham University.  
**Netherstowe School:** Hannah Luckman, top grades in GCSE, undertaking Engineering Apprenticeship at JCB.  
**Lichfield Cathedral School:** Joint Award – Jess Wharton, top grades at GCSE, studying A Level Sciences. Theo Dixon, top grades at GCSE, studying A Level Sciences  
**King Edward V1 School:** Nicholas Davis, 4 A\* at A Level (Physics, Biology, Chemistry, Maths), reading Natural Sciences at Cambridge. Jenny and I had the pleasure of being invited as guests to the School's recent Presentation Evening, where we presented Nicholas with the Lichfield Science and Engineering Society Prize.
2. The Friary School is now in possession of their new incubator and Jenny and I recently visited the school to receive the school's formal thanks for the Society's support.



3. I have to report that Aston University, with whom the Society has had a long relationship, has regrettably not shown interest in continuing to receive a student bursary from the Society. Consequently, the Committee is now in discussion with Stafford University, with the aim of providing an annual bursary to a suitable science/engineering student.
4. It is pleasing that the numbers of students from local schools, attending the monthly lectures this year have notably increased and for that we have to thank the support of the school staff representatives and the Society's Education Officer, Jenny.

**Monthly Lectures and Social Events** – the 2024-25 lecture programme commenced on Tuesday, 10 September, when our President, Professor Rik Bryan, gave his Presidential Lecture entitled “**Scopes, Scans and Bio-Markers - 25 Years of Being Disruptive in Bladder Cancer Research**”. Rik provided an interesting journey through various stages of his bladder cancer research career over the last 25 years, from eye-watering intrusive examinations to the nowadays non-intrusive investigation for bladder cancer. He was not joking when at the start of his lecture he advised the audience to “cross your legs and fasten your seat belts” as he proceeded to show us some highly illuminating cystoscopy videos.

On Wednesday 9 October, Professor Stephen Blundell of the Cavendish Laboratory spoke to us on the subject of “**Superconductivity: The First 113 Years**”. Stephen's fascinating lecture took the audience back to 1911, when Heike Omnes demonstrated that solid mercury at 4.2 degrees Kelvin (-268.8 degrees Celsius) exhibited no electrical resistance – the first superconductive conditions had been discovered. We were then taken through the further discoveries of superconductive materials at ever increasing temperatures, culminating to the present day, with some iron alloys at above 0 degrees Celsius, showing superconductivity properties.

**Annual Dinner** – on Wednesday 16 October, 67 members and guests, including our supportive Patron, Mr Ian Dudson, HM Lord Lieutenant of Staffordshire and his wife, Jane, enjoyed a convivial evening of fellowship and good food at the Aston Wood Golf Club. The evening was marked with the installation of our new President, Professor Janet Lord by the outgoing President, Professor Rik Bryan. I would like to thank Rik for his enthusiastic support during his tenure as President and to thank Janet, for agreeing to take on the role of President, for the next two years. The evening concluded with an interesting talk by historian, Quentin Watt, on Midlands train disasters in the 19<sup>th</sup> and 20<sup>th</sup> centuries. I would like to thank Carol, for organising an excellent evening of entertainment.

The 34<sup>rd</sup> Erasmus Darwin Memorial Lecture, held on Tuesday 5 November, was delivered by Professor Michael Wooldridge of the University of Oxford and entitled “**Recent Advances in AI: What are They, What do They Mean?**”. The topic proved to be very popular, with the Garrick's Main Theatre very full. Society is presently going through a watershed period with regards to AI and Professor Wooldridge focused on generative AI, which relies on mega data collection. As a balance, he gave a number of examples, where AI had not provided the anticipated answer. The evening was hosted by our new President, Professor Janet Lord and I would like to thank Janet for her efficient handling of the evening's proceedings.

On Thursday 5 December, Professor Michael Kelly, Emeritus Prince Philip Professor of Technology in the University of Cambridge, gave a stimulating lecture entitled “**The Challenges of Meeting Net-Zero by 2050**”. Professor Kelly's talk challenged the impracticality of UK Governments' and UK professional engineering bodies' (including the Royal Society), achieving net-zero by 2050. He quantified the cost at £3trillion to the UK economy, with enormous potential shortages of raw materials and qualified engineers. Professor Kelly estimated that by 2050, 79% of global energy would still be provided by



fossil fuels. I would like to thank Mark, who has made all these lectures available to view in the Members' Area of the website.

**Visits** – reports from our Visits' Secretary. Thank you, Mike.

Materials handling with a bit of time travel thrown in. In July John Smedley's Mills welcomed 18 Members to the site where they've been making woollen garments for 240 years. The building has grown over the years but we were shown part of the original next to the river, which once drove the wheel to power the mill. The most striking thing about Smedley's garments, apart from the obvious very high quality, is the amount of manual work involved. The wool, mainly from New Zealand, is spun on machines with tight control of temperature and humidity and the various parts of a sweater are knitted mechanically but from there on they are joined by hand and visually inspected. The man (yes, one) who presses and steams them individually for packing does have laser beams as guides for the folds though.

Return to the present, even the future in October, 30 of us at the Laing O'Rourke Centre of Excellence for Modern Construction. We were warmly welcomed, even afforded the use of the canteen for a late breakfast then after a video introduction to the company's worldwide operations we toured the factory which they claim is Europe's largest and most advanced pre-assembly manufacturing facility. The heavily automated process produces concrete sections, assembled on site for major buildings. One of these is the new Ellison Centre in Oxford, we saw an 80 ton precast item destined for that.

Dunlop Aircraft Tyres in Erdington is not as old as Smedley's but is still in its 1920s buildings with a lot of what looked, to the 17 Members attending in November, like its original equipment. They do have a very modern automatic machine for building radial tyres but there is not much of a market for these at present. The axial tyres preferred by the aircraft industry are laid up mostly by hand layer by layer, many more layers than the car and truck tyres which used to be made on the Fort Dunlop site. After building they are moulded in presses to the correct shape and cooked by high pressure steam. Aircraft tyres are re-moulded several times during their life and we also saw that process. Many of the world's commercial and military aircraft are shod by DATL who are still proud of the fact that the first bit of Concord to leave the ground was the Dunlop nosewheel.

Accompanying this Newsletter is an invitation from the Visits Secretary, for visits in the New Year and please reply direct to Mike. Also included with the Newsletter is the latest Membership List.

I would like to take this opportunity to thank the Committee for their personal support to me and for everything they do to ensure the smooth running of the Society. I would particularly like to thank our General Secretary, Irene for her diligent issuing of Committee Meeting papers and her Meeting Minutes. I look forward to seeing many of you at our next lecture on Wednesday 8 January, which is entitled "Unravelling the Secret Mapping of the UK" and will be given by Dr Alex Kent of Canterbury Christ Church University and Mr John Davies of Sovietmaps.com.

Wishing you and your families a Happy Christmas and a Peaceful New Year.

*Alan*

Alan Hooper

Chairman