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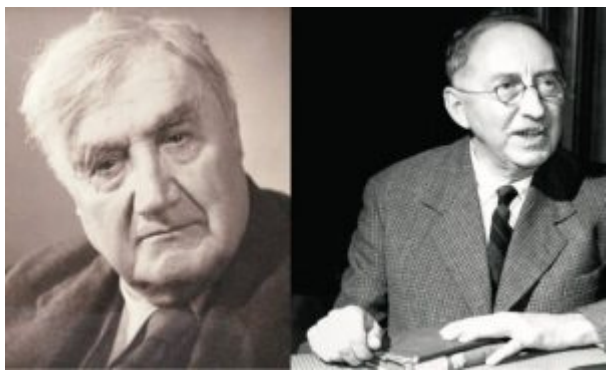
Dorking’s role as a refuge from Nazi oppression

10 May 2026



Papers documenting how novelist E.M. Forster and composer Ralph Vaughan Williams helped refugees fleeing Nazi persecution find shelter in the Surrey town of Dorking are to be made fully accessible online for the first time, through a new project led by the University of Surrey and Dorking Museum.

The Dorking and District Refugee Committee was established in 1938 to support people escaping Nazi oppression in central Europe. Operating throughout the Second World War, the committee found housing, work and medical care for refugees, and later helped Dorking’s German and Czech nationals apply to Home Office tribunals to avoid internment as enemy aliens. Its records – held by Dorking Museum – are of national and international significance, containing individual stories of displacement, solidarity and community response during one of the darkest periods in modern history.

The project, Accessing Refugee History in Surrey, is funded by the Community Foundation for Surrey and led by Professor Constance Bantman and Dr Beth Palmer from the University of Surrey’s School of Arts, Humanities and Creative Industries. It will create a new web-based archive, making the committee’s records fully searchable and publicly available, alongside teaching and support resources for schools, researchers and community groups. A launch event and other activities to publicise this significant resource will take place later in 2026.

Among the stories contained in the records is that of Sir Erich Reich, who arrived in Britain on a Kindertransport in 1939, aged four. With his older brothers sent elsewhere, Vaughan Williams personally brought the young boy to Burchett House in Dorking – a hostel provided rent-free by the Duke of Newcastle – where refugees received support from the committee. Reich went on to become a successful entrepreneur and philanthropist, and credited Dorking with saving his life.

The committee’s work extended beyond housing. When war was declared in 1939, Dorking’s German nationals faced internment. The committee intervened on behalf of individuals, including Erika Schmidt-Landry, a former journalist whose husband had been interned on the Isle of Man, and who faced the prospect of placing her three children in an orphanage. Forster and Vaughan Williams took up her case directly.

Professor Constance Bantman, Head of Literature and Languages and Professor of French History at the University of Surrey, said

“These records tell the stories of people who were forced to leave everything behind, and of a community that chose to help them. Making this archive accessible means those stories – of both the refugees and the people of Dorking who supported them – can be understood and learned from by a much wider audience. At a time when questions about refuge and displacement remain urgent, this history has a great deal to teach us.”

Dr Beth Palmer, Associate Professor in English Literature at the University of Surrey, said:

“The Dorking Refugee Committee papers are a remarkable collection. They document not just the administrative work of the committee but the human detail – the individual cases, the letters, the decisions that changed lives. Our aim is to make all of this available to researchers, educators and the public, and to provide resources that help people engage with this important chapter of Surrey’s history.”

Kathy Atherton, Chair and exhibitions, Dorking Museum, said:

“The papers of the Dorking Refugee Committee are one of the most popularly requested by researchers in the archive. Covering the period from 1938 into the post-war period and immensely detailed, the papers are of national interest in documenting the refugee experience during these years.

“We are very pleased to be working with the team from the University of Surrey to bring these papers to a wider audience whilst at the same time protecting the originals from excessive handling.”

The project will also produce teaching resources designed to support engagement with the collection, making the archive a practical tool for education alongside its research value.

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Image: R Vaugan-Williams and EM Forster

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Surrey University designs new long-life battery

10 May 2026

A new battery design that could significantly extend the range of electric vehicles and the lifespan of portable electronics has been developed by researchers at the University of Surrey's Advanced Technology Institute (ATI).

In a study published in ACS Applied Energy Materials, researchers introduce a novel lithium-ion battery anode that delivers some of the highest energy storage capacities reported for silicon–carbon nanotube systems, while maintaining stability over hundreds of charge cycles.

Lithium-ion batteries power much of modern technology – from smartphones and wearables to electric vehicles. Graphite, the most commonly used anode material, is stable but limited in the amount of energy it can store. Silicon, on the other hand, offers far greater capacity, but it expands during charging, causing it to crack and degrade over time.

To overcome this, the research team developed a new "Vertically Integrated Silicon–Carbon Nanotube" (VISiCNT) structure. The design grows dense forests of carbon nanotubes directly onto copper foil and coats them with a thin layer of silicon, creating a flexible, conductive scaffold that can absorb expansion while maintaining performance.

The resulting anode can store a very large amount of energy for its weight. In laboratory tests, it stored more than 3500 milliampere-hours per gram – close to the maximum possible for silicon and far higher than the graphite (370 mAh/g) used in today's batteries. It also demonstrated improved stability and performance over repeated charge cycles.

Dr Muhammad Ahmad, Research Fellow at the University of Surrey's ATI and lead author of the study, said:

"There's been a growing push for battery innovation, as many of today's technologies are limited by how much energy batteries can store. Our VISiCNT design offers a practical route to harness silicon's huge storage capability without sacrificing cycle life.

"This is a much-needed breakthrough, delivering very high capacity, fast charging and long-term durability, while bringing us closer to batteries that can power electric vehicles and everyday devices for much longer on a single charge."

A key advantage of the new approach is that the carbon nanotubes are grown directly onto copper – the material already used in commercial batteries – using a scalable manufacturing process. This could make it easier to integrate the technology into existing industrial production lines.

Professor Ravi Silva, Principal Investigator and Director of the ATI, said:

"This work is an important step towards bringing CNT-silicon anodes out of the lab and into real-world manufacturing. We can grow carbon nanotube structures directly onto copper foil at speed and tailor the silicon layer for stability, meaning this approach could be integrated into existing battery production lines with minimal disruption. The technology has clear potential not just for electric vehicles, but also for grid storage and smaller batteries used in microelectronics.

"We are very proud to present yet another CNT technology following our initial research in delivering the world's darkest material, VANTA-Black via the university spin-out Surrey NanoSystems Ltd., which is showing real-world impact of fundamental research funded by UKRI."

As demand for energy storage grows, batteries will need to store more energy, charge faster and last longer to support the UK's transition to Net Zero. The VISiCNT design offers a promising route to meeting these challenges and could be key to powering next-generation electric vehicles and phones.

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Surrey Space Institute could lead UK missions to the stars

10 May 2026

UK-led and UK-enabled space missions within this decade should be the hard-coded goal of the country's space industry at every level, says the Director of the newly launched Surrey Space Institute at the University of Surrey.

Professor Adam Amara, who is also on secondment to the UK Space Agency as Chief Scientist, is calling on the sector and government partners to "stop outsourcing ambition and have belief and pride in our capabilities to operate missions on a regular basis".

Professor Amara said:

"There is a real opportunity for 'middle powers', as Mark Carney put it, to partner together and compete with the established global superpowers. But this does not mean the UK space industry or the UK public should water down its ambition for what we could accomplish. It is in our gift to establish regular UK-led and operated missions.

"Mega-constellations, mega-primes, mega-states – these are the gravitational forces we feel in the world today. But the extraordinary capabilities held by the UK and our allies can be mobilised, as an antidote to the inertia of giants. The Surrey Space Institute will be a focal point for convening the technologies, the researchers and the companies that will prevent middle-power ambitions being limited by fragmentation. This must become a sectoral, a national and a collaborative commitment to contribute to the promise of space."

The Surrey Space Institute was set up precisely to help deliver that commitment. A key focus will be to help the UK grow the skills and capabilities in today's workforce and for future generations. The Institute will also work with its partners to conceive and operate space missions – combining hardware, software, policy and operations to tackle problems on this planet as well as in deep space. Its research will focus on three areas: managing water and climate on Earth, strengthening space systems such as satellite communications and cybersecurity, and developing the engineering, physiological, legal and economic governance solutions needed to deliver deep space exploration, operation and even settlement.

The UK space sector has a proud heritage – and Surrey has been at the heart of it, helping to drive the small satellite revolution that proved space could be accessible, not just the preserve of superpowers. The Surrey Space Institute will take that further – forging industry partnerships, opening up space sector facilities to small businesses, and equipping the next generation with mission-ready skills through hands-on research opportunities and specialist Continuing Professional Development programmes.

Surrey University

Image: Prof Amara (Surrey Uni) against imagined background of a rocket into space from UK

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Surrey’s big brains on tiny matters recognised

10 May 2026

Surrey ranked world’s leading university for nuclear isomer discovery, with three physicists in global top ten

A global database of nuclear physics discoveries spanning more than a century has ranked three University of Surrey physicists among the world’s top 10 for discovering and characterising nuclear isomers – rare, long-lived excited states of atomic nuclei that provide a unique window into the structure of matter and underpin modern medical imaging.

(From left to right: Professors Philip Walker, Zsolt Podolyák and Patrick Regan.)

Professors Zsolt Podolyák, Philip Walker and Patrick Regan – ranked second, third and tenth respectively in a global list of more than 1,000 researchers – are the highest-ranking university-based academics. Their work has helped position Surrey as the world’s leading university for nuclear isomer discovery, an exceptional distinction in a field typically dominated by large national laboratories.

Nuclear isomers occur when protons and neutrons inside an atomic nucleus rearrange into higher-energy configurations that live far longer than typical excited nuclear states, which usually last much less than a microsecond. Some isomers survive for microseconds, years, or in extreme cases, far longer than the age of the universe.

Alongside helping scientists understand how elements are formed in stellar explosions and neutron-star mergers – and how they decay to create the matter around us – isomers are most widely used in medicine. The world’s most common diagnostic imaging isotope, Technetium-99m, used in around 20 million diagnostic procedures each year, is itself an isomer, and the same techniques used to study these states allow for accurate cancer diagnosis and safe radiation dosing.

The rankings come from a new international database compiled by Professor Michael Thoennessen of Michigan State University and published in Nuclear Physics News International. The findings will be presented at the NUSTAR Annual Meeting in Germany from 23-27 February.

Zsolt Podolyák, Professor at Surrey’s School of Mathematics and Physics, said:

“Discovering and characterising nuclear isomers is technically extremely challenging. These states are rare and often hidden within enormous amounts of background data. What this recognition shows is the sustained strength of Surrey’s nuclear physics research and our ability to lead major experiments at the world’s most advanced accelerator facilities.”

The discoveries were carried out at major international accelerator laboratories, including the GSI Helmholtz Centre for Heavy Ion Research in Darmstadt, Germany, a leading hub for nuclear structure research. While the new ranking database has named GSI the world’s leading laboratory for isomer discoveries, Surrey is ranked number one in isomers discovered by external users.

Patrick Regan, NPL Professor of Nuclear Metrology at the University of Surrey, said:

“Research into nuclear isomers helps us address some of the most fundamental questions in science – including where we come from and how the atoms that make up our bodies were formed in stellar explosions. To have three researchers from one university ranked in the global top 10 is highly unusual and reflects decades of sustained leadership in a very demanding field.”

Professor Philip Walker, Emeritus Professor of Physics at the University of Surrey, who has previously been awarded the Institute of Physics’ Rutherford Medal and the European Physical Society’s Lise Meitner Prize for his contributions to nuclear structure physics, said:

“Nuclear isomers have played a central role in shaping our understanding of atomic nuclei since their discovery in 1921. They provide some of the most sensitive tests of how protons and neutrons arrange themselves inside the nucleus and have repeatedly challenged and refined our theoretical models. I am honoured to be counted among the world’s leading researchers in this field.”

The NUSTAR (Nuclear Structure, Astrophysics and Reactions) Annual Meeting forms part of the FAIR (Facility for Antiproton and Ion Research) accelerator facility at the GSI site in Darmstadt, bringing together around 800 nuclear physicists worldwide. Surrey Professor Zsolt Podolyák serves as spokesperson for the international NUSTAR collaboration, helping to guide its scientific direction and coordinate research at one of the world’s most advanced accelerator facilities.

Photo: *From left to right: Professors Philip Walker, Zsolt Podolyák and Patrick Regan*

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Surrey Uni finds energy-saving 5G features could cut carbon emissions

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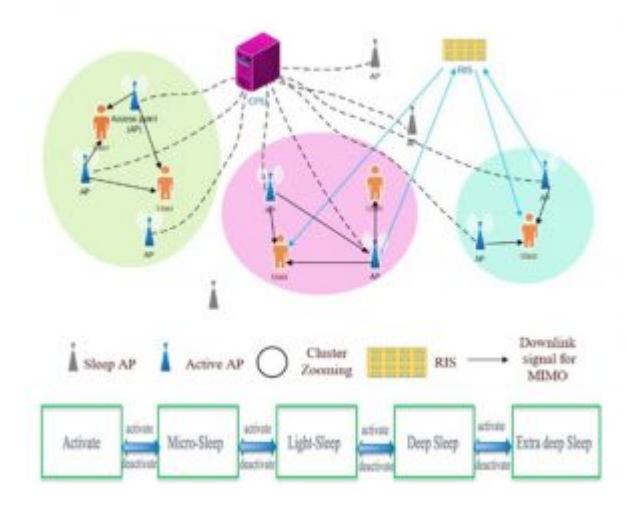

An optimal combination of energy-efficient 5G network features – including AI systems that let mobile mast and antenna base stations go into sleep mode when usage is low, and phones that avoid unnecessary background network checks – could help cut indirect carbon emissions across the UK economy by around 25 million tonnes of CO2, suggests new research from the University of Surrey.

The study, published in Resources, Conservation and Recycling, challenges the assumption that 5G will inevitably increase the UK's energy demand. Instead, researchers show that next-generation network technologies have the potential to reduce emissions across many industries that rely on the digital infrastructure that keeps them online – from finance and IT to transport and construction.

Using UK economic and emissions data, the team established an environmentally extended input–output (EEIO) model tailored specifically to the Information and Communication Technology (ICT) sector. This allowed them to trace how cutting energy use in 5G can send knock-on effects across 33 industries of the UK economy.

Working in collaboration with Professor Ming Xu from Tsinghua University, researchers looked at 10 emerging technologies – six targeting how base stations operate and four designed to make user devices more energy-efficient. These included AI-driven multi-level sleep modes, which let mobile masts switch off when demand is low, reconfigurable intelligent surfaces (RIS) such as smart panels that redirect radio waves using little power, "cluster-zooming" in cell-free MIMO networks that allow groups of small antennas to expand or shrink coverage so energy is not wasted, and smarter handset signalling.

They found that AI-powered sleep control for base stations and improved control-channel signalling on user devices delivered the most impactful reductions.

Dr Lirong Liu, Associate Professor at Surrey's Centre for Environment and Sustainability, said:

"Smarter base stations and devices don't just cut electricity use in telecoms – they reduce indirect emissions in the whole supply chain. The modelling framework allowed us to quantify effects that are usually hidden, especially the indirect emissions linked to electricity use and wider supply chains. It also gave us a clear way to compare different 5G features side by side and identify which combinations deliver the strongest environmental benefits."

The analysis shows that sectors such as financial services, IT services and computer programming gain some of the largest indirect benefits, reflecting just how much modern industries depend on digital connectivity.

Professor Pei Xiao, Professor of Wireless Communications at Surrey's Institute for Communication Systems, said:

"Many of these energy-efficient features are already on the engineering roadmap. What this study provides is a clear system-level view of where the biggest carbon wins lie – and why regulators, operators and industry should prioritise them as part of the UK's net zero transition."

The research also suggests that to unlock these benefits, 5G policy must extend beyond coverage and speed targets and encourage the adoption of energy-efficient architectures. Measures could include building energy targets into spectrum licenses that mobile operators need to use 5G frequencies, incentives for low-power network design and making sure 5G research supports the UK's broader net zero goals.

Surrey University

The full paper can be found here: https://www.sciencedirect.com/science/article/abs/pii/S0921344925005774?via%3Dihub

Image from Resources, Conservation and Recycling

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Surrey University installs Vice-Chancellor number six

10 May 2026

Guildford Cathedral played host as town and gown come together to see formal installation of Professor Stephen Jarvis as Surrey’s sixth Vice-Chancellor

In a ceremony that fused a message about the dual research and teaching purpose of the University, the urgency of a rapidly changing world, and age-old academic pageantry, Professor Stephen Jarvis was formally installed as the University of Surrey’s sixth President and Vice-Chancellor at Guildford Cathedral on 11 February.

The academic and civic occasion was attended by community representatives and leaders – including council leaders, current and former MPs and representatives from across the region’s business and academic communities, alongside hundreds of staff and students from across the University community.

Professor Jarvis shared a message of a University with deep local roots – bringing together our community of academics, students and graduates with the wider community in Guildford, Surrey and beyond to contribute to social, economic and cultural wellbeing. He spoke of a University with a critical leadership role in combining entrepreneurship and purpose to find solutions to the challenges of the modern world, and in driving economic growth, social opportunity and the future skills agenda.

A computational scientist and former Royal Society Industry Fellow who helped establish The Alan Turing Institute, Professor Jarvis is internationally recognised for his academic leadership in high-performance computing, data science and applied artificial intelligence. On these foundations, he has established himself as an institutional and sector leader. At the University of Birmingham, where he served as Provost and Vice-Principal, he played a central role in shaping strategic vision, whilst at the University of Warwick he led industry-academic partnerships in big data as Deputy Pro-Vice-Chancellor (Research).

Professor Jarvis took up the role of President and Vice-Chancellor at the University of Surrey on 15 September 2025. In his address to a packed cathedral, he said:

“The University of Surrey is defined by a dual commitment to excellence in both education and research. Ours is also a university with a clear sense of purpose: to provide an education that equips graduates for the world of work, and to undertake research that addresses some of the most urgent challenges facing society.

“Surrey aspires to be recognised among the very best universities in the UK, with a strong and growing global reputation, reach and influence. I firmly believe that the UK needs universities like ours to navigate the opportunities and challenges of technological change, respond to critical skills needs, and prepare students for the workplaces of the future.

“The University of Surrey is deeply rooted in its local community – not only a place of learning and discovery, but also an active contributor to the social, economic and cultural wellbeing of the communities we serve. The long-term success of a place is built through a shared endeavour: universities, colleges and schools that educate and inspire; public services that protect and enable; infrastructure that connects people to opportunity; and governance that provides stability, trust and direction. Aligned, we don’t just function, we flourish.”

The installation ceremony featured a traditional academic procession with full regalia, a specially commissioned fanfare, and music from the University Chamber Choir. The fanfare has been arranged for the installation by Dr Christopher Wiley, Head of Music and Media at the University, having been originally composed by the renowned composer of the day Dame Ethel Smyth. Dame Ethel lived in Surrey for most of her life and is commemorated at the University and with a statue in her home town of Woking. More information on the fanfare is included in the Notes to Editors, below.

Professor Jarvis joins Surrey as the University continues to deliver Vision 2041, its long-term strategy to become a globally recognised top 100 leader in research, innovation, education and civic engagement. The University has achieved its highest-ever global position of 219th in the Times Higher Education World University Rankings 2026 and remains within the UK top 15 for student satisfaction, with 85% of graduates progressing into highly skilled employment.

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The specially commissioned fanfare was originally composed in the 1930s as one of eight Fanfares for the Musicians' Benevolent Fund, each composed by one of the eight best-known British composers of the day, based on a traditional military bugle call. The 'Men's Meal (2nd call)' bugle call, also known as 'Hot Potatoes' was composed as a fanfare by **Dame Ethel Smyth**, who lived in Surrey for most of her life and is commemorated at the University and with a statue in her home town of Woking. As well as producing an impressive canon of musical works, Dame Smyth was a much-published author and an influential suffragette. Her fanfare was first performed by the Royal Military School Bandsmen under Captain H.E. Adkins at a Musicians' Benevolent Fund Annual Dinner held in London's Savoy Hotel on 8 May 1930. It was recorded by the same ensemble and performed on other occasions, but the manuscript was lost, with Dr Wiley using the 1930s recording to bring the fanfare back to life for today's installation.

Related report:

Surrey's suffragette composer re-imagined in many ways

Surrey's suffragette composer re-imagined in many ways

10 May 2026

Rediscovering long forgotten music does not mean recovering how it was meant to be performed, and that is a major challenge for the arts, finds a new study from the University of Surrey. An expert found that rediscovered music comes with no shared understanding for how it should sound, leaving performers to make radically different interpretive choices that reshape the work itself.

In an article published in Performance Research: A Journal of the Performing Arts, a researcher focused on a little-known piano miniature by Surrey-based British composer Ethel Smyth, written in the late nineteenth century and forgotten for 120 years. When the piece re-emerged in the 1990s and began to be performed again, no traditions of interpretation had survived. There were no clear instructions for tempo, expression or dynamics, and no recordings of historical performances to learn from.

To understand what happens when performers face this problem, the research compared all professional recordings of the same rediscovered work. Using specialist audio analysis software, each performance was measured beat by beat to track tempo and rhythmic fluctuation across the piece.

Each pianist approached the music in a fundamentally different way, particularly at its unfinished ending. Some slowed dramatically, others pushed forward and none aligned closely with one another. Even the earliest modern recording failed to establish a shared interpretive reference point.

Dr Christopher Wiley, author of the study and Head of Music and Media at the University of Surrey, said:

"When musicians open a score like this, they are standing on empty ground. While written in standard notation that is commonly understood, there is no inherited wisdom to lean on as to how the piece is supposed to be played. What I found when analysing modern recordings was not small variation in interpretation but completely different musical identities emerging from the same notes. This is creative and exciting, but also unsettling."

The research argues that this challenge will only grow, as more pieces by historically marginalised composers are rediscovered. Nor is it an issue unique to music: performers across arts disciplines such as theatre and dance will likewise increasingly encounter works stripped of their original interpretive traditions.

Rather than relying solely on manuscripts, the study proposes more imaginative solutions: performers may need to draw on unconventional sources such as letters, memoirs and personal writings to guide interpretation. In this case, Smyth's later autobiographical descriptions of the person she aimed to portray through her music offered valuable insight into its character, mood and emotional intent.

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Image: Ethel Smyth with score to her composition March of the Women in the background. Sources: English composer and suffragette Ethel Smyth (1858-1944) Library of Congress's Prints and Photographs division under the digital ID ggbain.33693, Author George Grantham Bain Collection; Restored by Adam Cuerden Score: https://www.bl.uk/collection-items/smyth-march-of-the-women. Creative Commons CC0 1.0 Universal Public Domain Dedication. Montage created by Epsom and Ewell Times and is copyrighted.

Epsom and Ewell Times adds: Dame Ethel Mary Smyth DBE (22 April 1858 – 8 May 1944) was an English composer and a member of the women's suffrage movement. Her compositions include songs, works for piano, chamber music, orchestral works, choral works and operas. She lived in Surrey from childhood.

Surrey Uni on challenging AI decisions

10 May 2026

AI systems already decide how ambulances are routed, how supply chains operate and how autonomous drones plan their missions. Yet when those systems make a risky or counter-intuitive choice, humans are often expected to accept it without challenge, warns a new study from the University of Surrey.

Epsom and Ewell Times adds that the Civil Aviation Authority has granted Amazon a licence to deliver items by drone. It is uncertain when this service will actually begin.

The research, published in the Annals of Operations Research, looked at the use of optimisation algorithms in relevant areas such as transport, logistics, healthcare and autonomous systems. Optimisation algorithms are systems that decide the best possible action by weighing trade-offs under fixed rules such as time, cost or capacity. Unlike prediction models that estimate what will happen, optimisation algorithms choose what should be done.

Optimisation algorithms decide what gets prioritised, delayed or excluded under strict limits such as weight, cost, time and capacity. Yet those decisions are mathematically correct but practically opaque.

The research team's findings implies that our increasing 'blind trust' creates serious safety and accountability risks in the increasing areas of everyday life where optimisation algorithms are used.

Using a classic optimisation challenge known as the Knapsack problem, the research demonstrates how machine learning models can learn the structure of an optimisation decision and then explain it in plain language. The method shows which constraints mattered most, why certain options were selected and what trade-offs pushed others out.

The study shows how organisations can challenge optimisation algorithms before their decisions are put into practice. Rather than replacing existing systems, the approach works alongside them, using machine learning to analyse decisions and explainable AI to reveal why one option was chosen over another and which constraints and trade-offs shaped the outcome.

Dr Wolfgang Garn, author of the study and Associate Professor of Analytics at the University of Surrey, said:

"People are increasingly asked to trust optimisation systems that quietly shape major decisions. When something looks wrong, they often have no way to challenge it. Our work opens those decisions up so humans can see the logic, question it and intervene before real-world consequences occur."

This is particularly important for autonomous systems such as delivery drones. Drones must constantly decide which packages to carry while balancing battery life, payload weight and safety requirements. Without transparency, regulators and operators cannot easily justify or audit those decisions.

Rather than replacing existing optimisation software, the approach works alongside it. Machine learning is used in this

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approach to analyse solutions, explain feasibility and identify brittle or high-risk decisions before deployment.

The research introduces a structured framework that ensures explanations are tailored to real decision makers. Instead of technical outputs, systems can provide human-readable reasoning, such as: “too many heavy items were selected, or battery limits were prioritised over delivery value.”

Dr Garn continued:

“Regulators are starting to ask harder questions about automated decisions. If you can’t explain why your system chose one option over another, you’ll struggle to get approval — or defend yourself when something goes wrong. This framework makes that explanation possible.”

Surrey University

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Royal visit to Surrey University

10 May 2026

On 28 January, HRH The Duchess of Edinburgh and the University of Surrey’s Chancellor, HRH The Duke of Kent, visited Surrey to celebrate the University’s innovation, research and hands on learning. During their visit, they met students and staff from across campus, gaining insight into Surrey’s multidisciplinary approach to education.

Medical students at the first and only medical school in Surrey met The Duchess of Edinburgh to demonstrate the collaborative training that will shape their careers in the NHS. The Duchess returned to the University of Surrey’s Kate Granger Building six years after she opened it as the home of its School of Health Sciences. Her Royal Highness met some of the University’s first cohort of UK government-funded medical students who began their studies in September 2025.

The Duchess also met medical, nursing, midwifery and paramedic students learning together in the collaborative training wards before joining a virtual reality anatomy teaching session.

The University’s Chancellor, The Duke of Kent, joined her Royal Highness at the Surrey Space Centre, where they visited labs to see a student-designed satellite deploy pod which will push a payload from a rocket into space.

At the Space Centre, The Duchess visited the satellite clean room toured by Her Late Majesty Queen Elizabeth II in 1998. In the clean room, Her Royal Highness helped to fit a panel engraved with Their Royal Highnesses’ Royal Cyphers to Jovian-1, a satellite which Surrey students helped develop.

Schoolchildren who took part in the University’s widening participation summer schools returned to campus to show off the hands-on STEM projects they enjoyed last year, with The Duke and Duchess joining in. Students from the University’s Engineering Design Centre also had the opportunity to show His Royal Highness a range of projects, including rocket designs and Formula E racing cars.

Professor Stephen Jarvis, President and Vice-Chancellor of the University of Surrey, said:

“Training medical students alongside nursing, midwifery and paramedic students reflects how the NHS operates in practice. Our students graduate already equipped to work effectively in multidisciplinary teams, rather than having to learn this solely once they enter the workplace. The Duchess saw this first-hand in our training wards, where students from different disciplines learn together in realistic clinical settings.

“Her Royal Highness also saw our engineering students working on satellites they have designed and built themselves – hardware that will ultimately be launched into orbit. That combination of world-class research and practical, employer-ready skills lies at the heart of what we do. For our students, whether still studying or already well into their careers, having two members of the Royal Family witness this work first-hand is an experience they will long remember. It was a truly memorable day for our entire community.”

The visit marked a return to sites with strong royal connections. Queen Elizabeth II visited the University’s Guildford campus three times during her 70-year reign: in 1992, where she inaugurated the University’s Centre for Satellite Engineering Research; 1998, when she once again paid a visit to the Surrey Space Centre; and in 2015, when she opened Surrey’s School of Veterinary Medicine.

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Patrick Degg, Vice-President, Global at the University of Surrey, said:

"We thank both The Duchess of Edinburgh and The Duke of Kent for their continued support for Surrey. The Duke has served as our Chancellor since June 1976. To have him return in this 50th year of his Chancellorship alongside The Duchess, and for them both to see the breadth of the research and teaching Surrey delivers has been a moment of collective pride.

"A programme that took in our pioneering space engineering, our new medical school and other aspects of our multidisciplinary research and teaching, spoke to the transformation The Duke has witnessed and championed throughout his tenure. His presence continues to inspire our community and affirm the values at the heart of this institution."

About Surrey Space Centre

Since its founding in 1979, the Surrey Space Centre has been a leading space engineering hub and is widely seen as the birthplace of the small satellite revolution. Professor Sir Martin Sweeting spun out Surrey Satellite Technologies Limited from his work at the Centre, and its recent missions have included RemoveDEBRIS, which demonstrated ways to capture debris in orbit.

The University recently announced the creation of the Surrey Space Institute, which brings together expertise across engineering, law, biosciences and artificial intelligence to build skills, partnerships and future space missions – with a particular focus on protecting Earth's resources and critical orbital infrastructure.

Surrey University

HRH The Duchess of Edinburgh looking at a picture of Her Late Majesty Queen Elizabeth II at the University of Surrey. Credit Surrey University

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Surrey Uni powering hydrogen and low carbon energy

10 May 2026

A new partnership between the University of Surrey and leading clean energy technology company Ceres aims to speed up the development of next-generation clean power systems and hydrogen production – supporting the UK's net zero ambitions and helping address a growing skills gap in electrochemical energy technologies.

The collaboration brings together Ceres' expertise in solid oxide fuel cells (SOFC) and solid oxide electrolysis (SOEC) with Surrey's research strengths in electrochemical energy systems, digital and multiscale modelling, and advanced materials characterisation. Solid oxide electrolysis allows for highly efficient hydrogen production using electricity and heat, while solid oxide fuel cells can generate low carbon power for applications ranging from industrial processes to data centres.

Under the partnership, the teams will focus on improving the efficiency, durability and performance of these technologies, using advanced modelling and mechanistic insights to help translate fundamental research into real-world systems more quickly. Together, they will pursue joint research projects, collaborative funding bids and new training and placement opportunities for students.

Professor Qiong Cai, Professor in Sustainable Energy and Materials at the University of Surrey, and academic co-lead, said:

"Solid oxide electrolysis and fuel cells have huge potential to underpin the UK's future energy systems, from large-scale hydrogen production to low-carbon power for industry. But real progress depends on improving efficiency, durability and performance so these systems can operate reliably in the real world. This partnership gives us the opportunity to tackle those challenges head-on, combining fundamental science with a clear route to application."

Professor Jin Xuan, Associate Dean of Research and Innovation for the Faculty of Engineering and Physical Sciences, who is also a co-lead at Surrey, said:

"There is a growing skills gap in hydrogen and electrochemical energy technologies, at a time when demand for these capabilities is increasing rapidly. Working together with Ceres, we aim to help train the next generation of engineers and

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scientists in these fields through placements and hands-on research, ensuring the UK has the expertise it needs to support a net zero economy."

The partnership is outlined by a three-year Heads of Terms agreement and will see the teams work together to develop a pipeline of joint research projects and funding bids.

A symbolic signing ceremony, which took place at the University of Surrey on 14 January 2026, formally marked the start of the collaboration and provided an opportunity for both parties to set out priorities for the work ahead.

Dr Subhasish Mukerjee is Chief Scientific Officer at Ceres and was recently appointed a Visiting Professor within Surrey's School of Chemistry and Chemical Engineering. He said:

"We are delighted to expand our collaboration with the University of Surrey across fundamental electrochemistry research, modelling and digitalisation, and strategic testing to develop the next generation of clean energy technology. This collaboration strengthens our leadership in the solid oxide field and supports the UK's drive toward achieving its net zero targets."

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Surrey University

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Neurodiversity good for business Surrey study shows

10 May 2026

Businesses and policymakers risk missing out on workforce potential by misunderstanding neurodiverse conditions and the biological differences that shape entrepreneurial strengths, according to new research led by the University of Surrey. Instead of considering ADHD, dyslexia and bipolar conditions only as static clinical challenges, researchers build on the existing entrepreneurship literature to argue that these conditions can equip people with unique abilities that drive entrepreneurial action, innovation, and business growth.

In a study, published in Neurodiversity in Entrepreneurship, researchers carried out a systematic review of scientific evidence published between 2011 and 2023, mapping 139 papers and 28 core studies across business and management. Importantly, they focused on using organisational neuroscience evidence, spanning from brain activations to genetic mechanisms linked to ADHD, dyslexia and bipolar conditions.

Researchers found evidence that entrepreneurs with ADHD often show high entrepreneurial alertness and strong performance in innovation and risk taking. Dyslexic entrepreneurs may instead compensate for reading and writing challenges by developing advanced delegation strategies to accelerate business growth. Meanwhile, traits linked to bipolar conditions correlate with creativity, idea generation and willingness to pursue bold ventures.

Dr Sebastiano Massaro, co-author of the study and Associate Professor (Reader) of Organisational Neuroscience at the University of Surrey, said:

"We often behave as if neurodiversity automatically means a deficit. The biological evidence shows something completely different. These conditions span a continuum and there is strong evidence that in entrepreneurial contexts they bring valuable strengths. Simply put, we need to stop treating them as problems to be fixed."

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The research advocate for a shift in how businesses support programmes and employers view neurodiversity. It argues for business environments that value difference rather than seeking to normalise it and calls for practical organisational strategies that actively harness neurodiverse strengths. The study also highlights policy implications, noting that entrepreneurial settings can provide pathways to work and equality for people who are often miscategorised as unemployable.

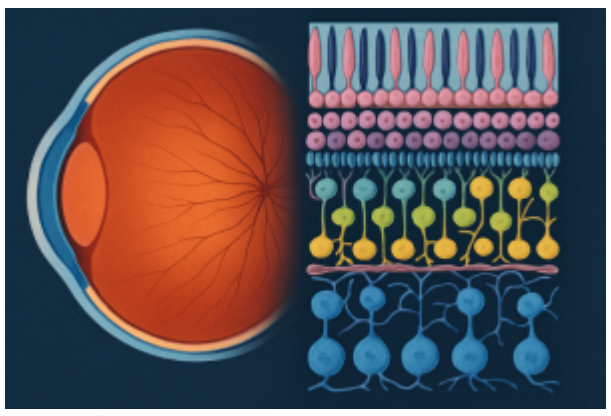
Dr Sebastiano Massaro continued:

"To the best of our knowledge, we are presenting the first grounded explanation of why neurodiversity matters in business by drawing a direct connection between neural mechanisms and entrepreneurial behaviour. If universities, industry and governments overlook how these biological foundations impact entrepreneurship, they might miss valuable capability hidden in plain sight."

Surrey University

Surrey Uni study may show way to reverse vision loss

10 May 2026



New computer modelling could help scientists better understand how the retina regenerates, opening the door to new treatments for vision loss, according to a study from the University of Surrey.

The first-of-its-kind model is capable of detailing how the retina – the light-sensitive layer at the back of the eye – can build its complex structure from just one type of stem cell, deepening our understanding of how sight develops and how its development could inform studies of injury or disease.

Using advanced agent-based modelling, the research team have simulated key stages of retinogenesis – the process by which identical progenitor cells diversify into the six types of neurons that make up the retina.

The model shows how simple genetic rules and subtle randomness work together to form the retina's precise layered architecture, a structure essential for how we see.

The paper was presented at IWWBIO 2025 and published in Lecture Notes in Computer Science (LNCS).

Cayla Harris, lead researcher from the University of Surrey's Nature Inspired Computing and Engineering Group, said:

"The beauty of biology is that complex structures can emerge from simple rules. Our simulations show how genetically identical cells can, through intrinsic bias and chance, self-organise into the retina's highly ordered layers – a pattern that underpins how we see the world."

Using the BioDynaMo software platform, the team modelled virtual "cells" that grow, divide and make fate decisions based on internal gene-regulation logic, mimicking biological behaviour. They tested different network designs for how genes might interact when cells decide what kind of neuron to become.

Two particular designs – called the Reentry and Multidirectional models – reproduced real biological data most accurately, suggesting that retinal cells may make their fate decisions through overlapping and flexible genetic pathways, rather than a fixed sequence.

This approach could help researchers better understand not only healthy eye development but also what happens in retinal diseases and in regenerative research exploring how stem cells might rebuild tissue.

Dr Roman Bauer, senior author on the study from the University of Surrey, added:

"Computational modelling gives us a powerful way to explore biological processes we can't easily observe in real time. By simulating every cell's decision and interaction, we can test hypotheses about how tissues like the retina form – and how to restore them when damaged."

This research is supported by the Engineering and Physical Sciences Research Council (EPSRC).

Cayla Harris added:

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“We think that our research is a step forward in linking genetics, computation and developmental biology to understand one of the body’s most complex neural structures.”

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