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ISSN 2753-2771

Surrey Uni leads research to replace plastic with paper for liquids

A multimillion-pound research project, called SustaPack, aims to overcome manufacturing challenges for the next generation of sustainable, paper-based packaging for liquids. Backed by a £1 million grant from the Engineering and Physical Sciences Research Council (EPSRC) as part of UKRI's co-investing programme, packaging technology company Pulpex Ltd has joined forces with the University of Surrey to refine its manufacturing processes to provide a viable solution to plastic pollution.

Contributing matching support towards the project, Pulpex has already made significant strides in the development of its patented technology, which produces degradable bottles made from natural wood fibres. The packaging offers a sustainable alternative to traditional plastic materials and can be recycled in existing paper waste streams.

However, designing the next generation of production technology and materials requires novel and fundamental research to address current limitations, including new analytical techniques to improve product quality, optimising performance and reducing in-process imperfections.

Scott Winston, CEO at Pulpex, said:

"We're excited to strengthen our existing collaboration with the University of Surrey to enhance our technologies and processes. Our SustaPack partnership will help us advance safe, sustainable packaging solutions, enabling brand owners to meet Net-Zero targets. It gives consumers sustainable choices, delivers answers for brand owners, and enables supply chains and retailers to deliver their carbon footprint reduction goals – a priority for all."

A key feature of the packaging is its multi-layered barrier coating, which prevents contained liquid from leaking, as well as inward oxygen permeation, maintaining high-quality products for consumers. To create a step-change in the energy usage in methods used to apply these coatings, the researchers plan to develop innovative processes that consume less energy and water while increasing the shelf life of packaged goods.

Professor Joseph Keddie, from the University of Surrey's School of Mathematics and Physics, and Fellow of the Institute for Sustainability, said:

"Over the past couple of years, I have forged a close relationship with Pulpex as a Royal Society Industry Fellow, and I am enthusiastic about strengthening our ties through our SustaPack Partnership.

"Our aim here is to combine novel coating processes, mechanistic modelling, computer vision and artificial intelligence (AI) to establish a 'dry' spray coating process that deposits food-safe, degradable coatings. This technology, which isn't yet commercially available, will not only drive the next generation of packaging technology but will also contribute to a significant reduction in plastic pollution and lower carbon emissions from manufacturing."

A multi-disciplinary team of researchers will explore the feasibility of using thermal imaging to detect defects in wet coatings as they occur, enabling immediate corrections using AI. Multi-scale mechanistic models of the coating process will be employed to identify the sources of imperfections and non-uniformities and then eliminate them to ensure optimal packaging performance.

By applying innovative computer vision techniques powered by AI, the project aims to identify production defects in real-time, optimise materials and processes, and achieve 100% reliability in the manufactured products.

The outcomes of the project could set new standards for environmentally friendly packaging, helping brand owners reduce their environmental impact amidst ever-increasing environmental regulations – while offering consumers eco-friendly options to help fight against plastic pollution.

From left to right: Dr Hui Luo and Professor Robert Dorey (University of Surrey's School of Engineering); Professor Joseph Keddie (University of Surrey's School of Mathematics and Physics); Scott Winston, CEO at Pulpex; Barrie Harvey, COO at Pulpex; Dr Simon Hadfield (University of Surrey's Centre for Vision, Speech and Signal Processing); Professor Charley Wu (University of Surrey's School of Chemistry and Chemical Engineering).

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Young Artists Brighten Up Tattenham Corner Station

Passengers at Tattenham Corner station will soon be welcomed by a brand-new display of artwork, thanks to a creative collaboration between local students and The Arts Society Epsom.

Led by Carol Skelton, Arts Coordinator, Year 6 students from Epsom Downs Community School have explored block printing and etching on polystyrene sheets to create Greek vase designs inspired by renowned printmaker Patrick Caulfield's *Pottery 1969*.

The project has been supported by The Arts Society Epsom, with Angie Child, Head of Young Arts Volunteering, overseeing the initiative. It follows the launch of a permanent art display at Epsom Station in October 2024, created by students from Nescot College of Technology.

Part of the national **Art@TheStation** initiative, the project is backed by The Arts Society's head office in London and funded by Southern Railway. The goal is to showcase local primary school artwork, bringing creativity into public spaces and enriching the experience of travelers passing through the station.

Next time you're at Tattenham Corner station, take a moment to admire the talent and creativity of these young artists!

Parents lose trust in Surrey state "school family" admission priority

A Surrey suburb is up in arms as an 'oustanding' secondary school could change its admissions, making it more tricky for local children to get a place.

Consultation for the new admissions for September 2025 at Hinchley Wood School, in Esher, ends on Wednesday 22 January. If approved, the academy school would prioritise students who attend the schools within its own trust- Hinchley Wood Primary School and Thames Ditton Junior School- leaving Long Ditton St Mary's Junior School and Claygate Primary School lower down the pecking order.

But parents of Long Ditton St Mary's Junior are furious their child could lose a place at the only local state school in the area. Children who attend Long Ditton St Mary's Junior School have traditionally gone to Hinchley Wood Secondary School, but the admission changes could see local students deprioritised from their closest high school and forced to go elsewhere.

The 'outstanding' Ofsted-rated school frequently comes as one of the top places in Surrey. Ben Bartlett, CEO of Hinchley Wood Learning Partnership Trust, said he had "massive sympathy" for those worried about the proposed changes and understood parents always want their child to get into the "best" school.

An academy trust, Hinchley Wood School is legally and financially one organisation so it shares resources such as safeguarding, SEND provision, disadvantaged learners and educational subjects like French, Music and P.E with trust schools. Mr Bartlett argued giving the two primary schools priority keeps children and their parents "in the Hinchley Wood [trust] family".

Mr Bartlett and Co-Headteacher Ms Maria Cachia explained keeping students in the trust means any safeguarding information or education can be easily transferred as schools have "shared values and strategic aims".

Now, parents say they are having to decide whether to send their children to the Ofsted-rated 'good' Thames Ditton primary school to have a better chance of going to Hinchley Wood, or to send them to the 'outstanding' Long Ditton St Mary's Junior. One dad said it was like "you've got a gun to your head from the local state school".

Shaya's son goes to Thames Ditton Infant School. He said his family has been "torturing ourselves for eight months" to decide which junior school to send him to in the hopes of getting a good secondary school place which could have a "profound impact" on his longterm future. Shaya said: "We're being forced to choose whether to prioritise our son's immediate educational means at the sacrifice of his long-term education."

Shaya, who lives less than 1km away from the secondary school, said: "The withdrawal of the catchment area clearly demonstrates the Trust wants to prioritise children who do not live locally over local children, and its own financial health." But the senior leadership at Hinchley Wood argued it would not be fair for children attending a primary school within the Trust to not proceed to the secondary school just because they live out of the catchment area.

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Antony Warren, parent of two children at Long Ditton St Mary's Infant School, said it is "wholly unfair" for the academy to change its admissions suddenly. He said: "We moved, we invested significant life savings into our house and in the community as a whole [so] we knew we were in the catchment area."

If children do not get accepted into Hinchley Wood Secondary, the next nearest school could be in Kingston where the council has no obligation to accept Surrey pupils. While the Long Ditton students could walk down the road to the secondary school, they may have to get the bus for 30-45 minutes to Esher High or a Kingston school. "I pay my taxes," said Antony, "I feel my children deserve the right to go to their local state school."

For many of the young children their first years of education were riddled with Covid and lockdowns, leading to disrupted education and interrupted friendships. Some children now struggle with anxiety and stress, which many parents fear will be exacerbated if the kids start new secondary schools out of the local area where they will not know anyone.

A tight and close-knit community, parents said the Dittons and Hinchley Wood are entangled together with sports teams and extracurricular groups. Preventing children from going to the local secondary school fractures these ties and uproots them from their social connections.

"It's just not right that a multi-academy trust can just wield its power and prioritise their own schools for their own benefits for their own financial gains [and] totally disregarding the needs of the local community," said Annette Whymark, who has a son in Year 4. Annette and her husband James Whymark started the action group to spread the word in the Thames Ditton community.

The campaign group, made up of around 65 parents, feared changing the admissions could disperse children into Surrey and Kingston, causing a ripple effect on school admissions. Parents understood those at Hinchley Wood and Thames Ditton primary schools will be in favour of the admissions change because "they want to do what is best for their children". However, they emphasised it as "grossly unfair".

Some argued that the Hinchley Wood's consultation is "financially driven" because it prioritises the primary schools within their trust by encouraging parents to send their children to that school. By increasing the pupil number, the school will get more funding from the government.

Mr Bartlett disagreed the consultation was motivated by financial gain, and stressed the student admission number for the two primary schools was actually being lowered in line with a falling birth rate.

Based on school admission data from Surrey County Council, Mr Bartlett and Mrs Hogan told the LDRS there would be a "minimal" impact in the number of students from Long Ditton entering the school. The CEO said the area was "blessed with a spread of fantastic schools" from Esher to Kingston, where children can frequently get local buses to school.

"This is a genuine consultation and no decision has been made yet," said Mr Bartlett. After the consultation finishes, the responses will be read and considered by the governors and trustees for the school.

Monica Harding MP for Esher and Walton, said she was concerned about the impact of the proposed admission changes and has shared these with Ben Bartlett. She said: "I have urged HWS to explore alternatives that better serve local families. I will continue to speak with the leadership at HWS on this issue.

"I have also raised these issues in both meetings and written correspondence with the DfE and Surrey CC. The DfE assured me that they are taking these concerns seriously and will "monitor and work with the trust and Surrey County Council to ensure no schools are made vulnerable by such changes if they occur."

"I am very aware of the anxiety these proposals are causing parents, and I remain committed to advocating for solutions that keep the best interests of our children at the forefront and ensure all of our local schools are thriving. I encourage all parents to participate in the consultation process to help ensure the final decision reflects the needs of our community."

"I also recognise that local schools are facing huge financial strain and that they are all challenged to deliver high-quality education without commensurate funding. I will continue to push the Government hard to provide the resources necessary for our children to have the best possible education."

Campaigners outside Long Ditton Infant school. (Credit: Emma Pericas Sims)

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Surrey Uni to lead on speech to sign GBT computer programme

A large-language model (LLM) built to meet the needs of the Deaf community, translating between signed and spoken language, is the aim of a new project led by the University of Surrey.

SignGPT: Building Generative Predictive Transformers for Sign Language has been awarded £8.45m from the UK Engineering & Physical Sciences Research Council. The five-year project will build tools to allow spoken language to be automatically translated into photo-realistic sign language and video of sign language to be translated into spoken language – a complex translation problem that is yet to be solved.

Surrey will work alongside the University of Oxford, the Deafness Cognition and the Language Research Centre at University College London, key Deaf stakeholders, and the Deaf community.

Professor Richard Bowden, Principal Investigator of the project from the University of Surrey's Institute for People-Centred AI, said:

"Large language models such as those behind ChatGPT and Gemini are transforming many aspects of our personal and working lives – and that transformation is happening at a blistering pace. Our project, SignGPT, is not about replacing humans, but it is about ensuring the Deaf community is not left behind in this revolution.

"By creating technology that serves the community, we're enabling equal access to information, working towards seamless communication between the Deaf and hearing world, and demonstrating that AI can be a tool for inclusivity and empowerment. SignGPT isn't just about accessibility for Deaf people – it's about setting a standard for how innovation can address inequities, strengthen human connection, and build a more inclusive society. In a world shaped by rapid technological change, projects like this show that AI's potential is greatest when it uplifts everyone."

Globally, there are around 70 million Deaf or hard-of-hearing individuals, many of whom use sign language as their primary form of communication. For many, written/spoken languages serve as a second or third language, and proficiency in these languages can vary. There is no universal sign language: sign languages are natural human languages created over centuries by Deaf communities and are not derived from spoken languages. Their underlying rules and structures remain a rich area of linguistic study. Each sign language has its own unique grammar and lexicon, relying on both manual gestures (hands) and non-manual expressions (body and face), along with spatial elements, to convey meaning.

Professor Bencie Woll, sign linguist, co-investigator of the project, and founder of the Deafness Cognition and Language Research Centre at UCL, said:

"This project is a unique collaboration between vision scientists and sign linguists with Deaf and hearing researchers working together towards our common goals."

Mark Wheatley, CEO of the Royal Association for Deaf People (RAD), said:

"I am pleased that this important grant will empower the Deaf community to have further equal access by harnessing AI and large language models. We will ensure that the University of Surrey, Oxford University, and the Deafness Cognition and Language Research Centre at UCL, alongside Deaf-led stakeholders such as RAD, take a people-centred approach to ensuring ethical responsibility and the accuracy of translations so that we, the Deaf community, can use them for everyday purposes."

Professor Kearsy Cormier, one of the Co-Investigators on the project from University College London, said:

"So much work in sign language technology is undertaken by researchers with no understanding of how sign languages work, nor any lived experience of deafness themselves. This project will allow real co-creation/co-development of this technology with Deaf and hearing researchers in linguistics and deaf studies working alongside computer vision specialists – with each group learning from each other – and, importantly, building capacity amongst Deaf researchers so they may lead this field in the future."

SignGPT's research team will produce the largest sign language dataset in the world and use it to build a sign language LLM that can provide the breadth of application to the Deaf community that current LLMs provide for written/spoken languages. In doing so, the project will also generate tools for data annotation that will be released for use by the wider community. The project already has Deaf members within both the research team and wider partners, but it is hoping to recruit more staff for whom British Sign Language is their primary language.

The challenge of automatically translating between sign languages and spoken languages is highly complex and remains

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unsolved. SignGPT will produce open-source toolkits for linguistic use, web-based demonstrations for accessible knowledge exchange and run outreach programmes alongside collaborative workshops.

Surrey University leading on alternative ADHD treatment

A multisite clinical trial has launched in the United States to investigate whether non-pharmaceutical methods can be used to treat attention deficit hyperactivity disorder (ADHD) in children ages 7-12. This trial is currently recruiting new patients and seeking FDA clearance.

The trial uses a wearable device – Novostim 2 – developed by Innosphere Engineering Ltd. The company anticipates FDA clearance by Q3 of 2025 and has already received approval for sales in Israel.

The novel treatment builds upon years of research into non-invasive brain stimulation techniques led by the University of Surrey's Professor Roi Cohen Kadosh. The research team carried out multiple studies in which children with ADHD were treated with transcranial Random Noise Stimulation (tRNS) coupled with cognitive training (CT).

tRNS is a non-invasive technique that delivers a weak and painless electrical signal to the brain to enhance activity in regions associated with attention. In the studies, children who received tRNS and CT experienced significant improvements in their ADHD symptoms, working memory, and processing speed, along with changes in their brain activity, which could be linked to the improvement of their symptoms in the long-term.

Two clinical trials have been completed using Novostim 2 at Hadassah Medical Center in children aged 7-12, which showed significant improvement in ADHD symptoms, including a 43% reduction in ADHD symptom severity and overall symptom alleviation.

The trial, over a two-week period, involves 20-minute treatment sessions in which Novostim 2 is used to deliver tRNS over specific regions in the brain associated with ADHD and during which participants engage in attention-based digital games.

For more information on the latest trial, visit ADHDtrial.com

Professor Roi Cohen Kadosh, Head of the School of Psychology at the University of Surrey, said:

"We were thrilled by the success of the previous clinical trials, which brought us one step closer to providing a safe and effective non-pharmaceutical option for children with ADHD. The device's ability to modulate brain activity and enhance cognitive functions may hold the key to long-lasting benefits, potentially reshaping the landscape of ADHD treatment. By harnessing the power of psychology, neuroscience, and technology, we can empower young patients to improve their focus, attention and overall wellbeing. The need continues to grow, and I hope to see this technology become available to many children and their families soon."

Rami Shacour, co-Founder and CEO of Innosphere, adds:

"For decades, stimulant medications have been the cornerstone of ADHD treatment. At Innosphere, we're parents first, driven by a mission to give families more personalized, effective options for their children. With Novostim 2, we're redefining what's possible in ADHD care. We're thrilled to announce sales approval in Israel and eagerly anticipate FDA clearance this year. This is just the beginning, as we explore Novostim 2's potential to complement existing therapies and transform lives."

Image: Professor **Roi Cohen Kadosh**

Special case for VAT exemption for special education needs?

Private schools are "not a lifestyle choice but a necessity" for children with special educational needs (SEN), argues the headteacher of an independent school in Reigate.

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Tuition fees are expected to soar from Wednesday January 1, 2025 as the government is scrapping the tax exemption on private schools across the country. The tax is expected to bring £1.7 billion a year, according to the Treasury.

But Mrs Michelle Catterson, head of Moon Hall School, a Specialist Dyslexia school, said: "If you can afford to pay, you should. But there should be exemptions for SEN kids."

Around 200 children between the ages of seven and 16 attend Moon Hall School- all of whom have been diagnosed primarily with dyslexia, a learning condition that can cause difficulty with reading, writing and spelling. Moon Hall provides a student-to-staff ratio of about 12:1 so pupils get extra support and adapt to meet their learning needs.

Mrs Catterson explained her students with SEN, 70 per cent of whom have an Education and Health Care Plan (EHCP), often cannot have their needs met locally in state schools, so there is "no viable alternative" for education. The Local Authority, like Surrey County Council, will pay for specialist provision in these instances.

"We offer local authorities good value for money," Mrs Catterson claimed, with most of the school's GCSE results boasting higher than average.

The head teacher said she believed "100 per cent of the kids [at the school] have SEN" but because of long and complicated process of applying for an EHCP, many parents often "give up" on the process. Instead, around 30 per cent of students pay for the specialist education.

Fees used to start at £7,505 per term for a child in year 7, according to the school's prospectus. But now, parents could be set back £10,424. The Department for Education has said it does not expect school fees to increase by 20 per cent as schools do not pass VAT onto parents. But as tuition fees is Moon Hall's only source of income, Mrs Catterson argued that they have no choice. "Small, specialist settings like [Moon Hall] simply cannot absorb the additional costs imposed by VAT," she said.

Most Children with EHCPs have their needs met within the state sectors, according to government officials. If an EHCP assessment concludes a child can only be supported in a private school, the local authority funds that child's place and can reclaim the VAT they pay.

Despite the expensive tuition fees, the headteacher claimed Moon Hall is "not an affluent school" and the government will find "no swimming pools" on the grounds. As a charity, any extra income is put back into the school by spending on staff to help the students, according to Mrs Catterson.

Impact on the parents

"It's really short-sighted," said Mrs Catterson. The head claimed adding VAT to SEN private school fees will mean more parents will apply for an EHCP, causing further backlog and creating extra costs to the government, which will need to provide for those needs.

Alternatively, some parents take on two jobs to fund their children through private school. Mrs Catterson stressed it would be an "awful situation" if a "settled, happy child, making good progress" was moved to the state sector where their needs cannot be supported.

Chris Coghlan MP for Dorking and Horley, said: "Moon Hall provides an outstanding education for children with special educational needs in Surrey. Adding VAT to school fees will place an unbearable strain on families who already make significant sacrifices to afford them. The Government must exempt specialist schools like Moon Hall from VAT to ensure children with special needs can continue to access the support and education they deserve."

"Punish independent schools"

Built in 1863, Moon Hall is a grade II-listed building which was purchased by the founders of the dyslexic school and repurposed as an educational building some forty years ago. Although a grand historical building, repairs and maintenance costs to the site are almost constant- Mrs Catterson said the roof needs replacing which is expected to cost £1.6m, even before pricey specialist chimney repairs.

Not only is the school facing the VAT axe, Moon Hall will have to wrestle with changes in national insurance and minimum wage increases like many other charities. The head told SurreyLive she "still doesn't know what the true figure will do" to the school and where it can find the extra money. Mrs Catterson said: "It feels like the Labour government is trying to punish independent schools."

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Rebuilding “confidence and trust”

A government spokesperson said: “Ending tax breaks on private schools will help raise additional funds to break down barriers to opportunity and support the 94 per cent of pupils who attend state schools to achieve and thrive including those with SEND.

“Pupils with the most acute needs will not be impacted by this policy. Work has already begun to rebuild families’ confidence in and reform the broken SEND system we inherited. The Budget invested £1b extra in day-to-day provision and earlier this month £740m was directed to support local authorities in creating more specialist places in mainstream schools.”

They added: “We are committed to improving inclusivity and expertise in mainstream schools, and ensuring special schools cater to those with the most complex needs, restoring parents’ trust that their child will get the support they need.”

Related reports:

Surrey Tory MPs against school fees VAT

Taxing question for Surrey’s private schools

Image: Outside Moon Hall School, Reigate. (Credit: Emily Dalton/LDRS)

Surrey Uni Doing the maths on virus transmission

How prepared are we for another pandemic? Mathematical insights pinpoint lessons on airborne viral transmission

Half a decade on from the start of the COVID-19 pandemic, a study by the **University of Surrey** highlights the significant impact of combined public health measures in reducing airborne viral transmission. High-quality face masks were shown to reduce transmission risk by ninefold, while doubling indoor air ventilation cut the risk by nearly a third, providing valuable insights to support future prevention strategies for respiratory diseases.

In 2020, the world came to a near standstill as rising COVID-19 cases prompted unprecedented lockdowns, travel restrictions and widespread public health measures. The World Health Organization estimates that more than three million deaths were directly attributed to the virus during the first year of the outbreak, underscoring the devastating toll of the pandemic on global health and economies.

To better understand the dynamics of airborne transmission and inform future preparations, **Dr Richard Sear**, Associate Professor at Surrey’s School of Mathematics and Physics, explored how the virus spreads during contact and the role of protective measures in reducing risk.

Dr Sear said:

“I’ve tried to measure how effective strategies, such as mask-wearing, are for the transmission of airborne viruses. This is both for any future pandemic, and for seasonal flu. I combined modelling with data from the UK’s NHS COVID-19 app. While these estimates are highly approximate, they provide guidance on the value of measures such as face masks, social distancing and improved indoor air quality, which could be tested in the future.”

Factors such as viral load, ventilation and individual susceptibility are likely to influence a significant variability in COVID-19 transmission rates, with some contacts posing a much higher risk than others. These findings highlight the importance of addressing environmental and behavioural factors in public health strategies.

In terms of personal protective equipment (PPE), high-quality face masks, such as N95/FFP2, were found to be particularly effective in reducing transmission risk, decreasing the effective reproduction number for COVID-19 transmission by a factor of approximately nine when worn by the entire UK population. Even individual use of N95 masks can lower transmission risk by threefold, no matter the duration of contact, whereas surgical and cloth masks are much less effective.

Ventilation also plays a critical role in controlling airborne transmission, as viral particles linger in poorly ventilated spaces, compounded by individual behaviours, such as close-contact interactions, speaking or coughing. By doubling the air turnover rate indoors, whether that’s through open windows and doors or increasing speed on air conditioning systems, transmission can be reduced by as much as 30%. Complementing good ventilation with physical distancing further minimises the risk.

Dr Sear added:

“The COVID-19 pandemic was terrible for many of us, which is why it’s important that we learn from our experiences. It also

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demonstrated how quickly we can develop and roll out vaccines when faced with a global health crisis. Moving forward, both we as individuals and our leaders have an opportunity to apply these lessons to better control respiratory diseases – not only to head off any future pandemics, but to also manage seasonal diseases such as flu and RSV."

The study has been published in Physical Review E.

Watching out for tomorrow's film talent in Epsom and Ewell

Creative Media students from North East Surrey College of Technology (Nescot) were joined by their tutors, family and friends for the premiere of their short film, 'The Watching' which was screened at Epsom Picturehouse last week.

The Watching' was filmed on location in the South Downs in November by Nescot's Level 4 and HND Creative Media students as part of their domestic filming project. Written by and starring former student, Charlie McCarthy, 'The Watching', is a psychological drama, exploring themes of identity, state control and the human cost of forgetting, set against the desolate beauty of an isolated coastline.

Louise Gaskin, Head of Curriculum for Creative Industries at Nescot said, "A huge well done to our cast and crew. We are so proud of their efforts and hard work on this project which has resulted in, I think, one of the best films we've made as a department. Thank you to Epsom Picturehouse and Satisfied Eye International Film Festival for supporting our students, we were thrilled to be able to showcase our students' film on the big screen."

Abigail Partington-Moran, Creative Media tutor at Nescot added, "The students have worked really hard on this filming project and enjoyed themselves too. They've taken the early starts, late nights, cold weather and countless unit moves all in their stride. The project has given them the real-world experience of working on set, and alongside the technical film-making skills, they've also learnt team work, problem-solving and time management skills."

After the film screening, key cast and crew members involved in the filming took to the stage for a Q&A session with Creative Media tutor demonstrator, Alex Marshall. They included, former student, Charlie McCarthy, Script Writer and Actor, and Sam Gower, Actor; HND student, Hannah Lealan, Producer; Level 4 student Frankie Hamley and HND student Nathan Elford, Directors and Level 4 student, Amani McKenzie, Script Supervisor.

Former student Charlie was part of Nescot's Gold Medal winning Creative Media team at WorldSkills UK 2023. He said his inspiration for the script was the filming location, "I liked the idea of writing something satirical with reference to the beach. Everyone involved was brilliant and so dedicated all of the time. We had lots of fun making this film and I do hope audiences enjoy it."

HND student, Nathan, who had the role of Director along with Level 4 student Frankie said, "We all worked really well together, there were no arguments which was great! Both Frankie and I collaborated to bring together the visual aspects of the film. The whole production was very professional. The experience has given me an idea of the job role I'd like to get into."

"Even though it was stressful at times, it was good stress and taught us how to problem-solve. We have learnt a lot from this whole production. It has made us ready for the film-making industry," added Frankie.

HND student, Hannah who had the role of Producer said, "We were essentially two different classes, working together. We turned a challenge from never having worked with someone before into an opportunity to develop, work and learn from each other. We had lots of fun on set between takes which made the experience enjoyable."

Level 4 student Amani explained that as part of his role as Script Supervisor, he had to ensure there was continuity through the whole production from props to the actor's lines, to make sure everything ran smoothly. "It's been an amazing experience and has prepared us for handling industry-related situations. We are ready!" he said.

Nescot Creative Media alumnus and industry professional, Luke James was present for the screening. Addressing the students, he reminisced about working on a similar filming project nine years ago when he was a student at Nescot and offered them key advice. He said, "Filmmaking is a labour of love and there are endless opportunities in this industry. The opportunity to make something like this film is just so valuable, and you may not feel it now, but you should all be extremely proud of yourselves."

'The Watching' has been entered into the Student Short (UK) category for the 2025 Satisfied Eye International Film Festival

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Nescot's Level 4 and HND Creative Media students on location for the filming of 'The Watching'. Credit NESCOT

Plant-based meat alternatives might be depressing

There is mounting evidence suggesting that ultra-processed foods (UPF) are bad for our health, but if you stick to a vegetarian diet, is that still the case? Plant-based meat alternatives (PBMA) are considered to be ultra-processed foods and may be associated with similar harms.

In the first study of its kind, published in Food Frontiers, researchers from the University of Surrey found that vegetarians who consumed PBMAs had a 42% increased risk of depression compared to vegetarians who refrained from PBMAs.

The study analysed data from the UK Biobank and found no notable differences in intake of sodium, free sugar, total sugar, or saturated fatty acids between those vegetarians who ate PBMA and those who did not.

The researchers did find, however, that those who eat PBMAs had higher blood pressure and C-reactive protein (CRP) levels, a marker of inflammation, and lower levels of apolipoprotein A, a protein associated with HDL, a "good" cholesterol; PBMA consumption was, however, also linked to a reduced risk of irritable bowel syndrome (IBS) by 40%.

Professor Nophar Geifman, from the School of Health Sciences at the University of Surrey and senior author of the study, said:

"The overall findings are reassuring, suggesting that plant-based meat alternatives may be a safe option when they are part of an overall balanced diet. However, the potential link between these types of food, inflammation and depression warrants further investigation."

The study presented some limitations due to the data collected, which was predominantly from a white population in the UK, and dietary information only being gathered at the beginning of the study, not accounting for potential changes over time.

Professor Anthony Whetton, co-author of the study from the School of Veterinary Medicine at the University of Surrey, said:

"Ultra-processed plant-based meat alternatives can be a useful way for people to transition to a vegetarian diet effectively, and that helps with sustainable agricultural practices. Further research, including longitudinal studies and trials with more diverse populations, is necessary to confirm these findings and the relationship between vegetarian foods and mood."

Surrey first in image AI

Surrey announces world's first AI model for near-instant image creation on consumer-grade hardware

A groundbreaking AI model that creates images as the user types, using only modest and affordable hardware, has been announced by the Surrey Institute for People-Centred Artificial Intelligence (PAI) at the University of Surrey.

The model, NitroFusion, represents a world first and has been made open source by its developers – SketchX, a lab within PAI – a move that fundamentally transforms access to AI-enabled image creation models for creative professionals.

Professor Yi-Zhe SonG, Director of SketchX and Co-Director of PAI, said:

"NitroFusion represents a paradigm shift in making AI accessible to everyone, eliminating the need for large compute resources and the long waiting times between prompt and result that are common with most image generation platforms."

Typically, similar technology is available only to corporate giants with vast computing resources. However, NitroFusion runs on a single consumer-grade graphics card – marking a decisive step forward in bringing advanced AI capabilities to individual creators, small studios, and educational institutions. The almost instant creation of images allows rapid artistic iterations and greater control over the generated imagery.

Dar-Yen Chen, the PhD researcher who helped to develop the project at PAI, said:

"NitroFusion leverages a novel dynamic adversarial framework that works like a panel of specialised art critics, each evaluating different aspects of the generated image to ensure high quality in a single step. The system's flexible architecture allows users to optionally use between one to four refinement steps, providing direct control over the balance between generation speed and

ISSN 2753-2771

image quality."

Professor SonG added:

"With NitroFusion, we're not just releasing another image generation model – we're pioneering an entirely new approach which democratises AI interaction.

"Following our DemoFusion release last year, which provided a new way to upscale AI-generated images, this innovation further establishes our position at the forefront of making powerful AI technology accessible to all."

This breakthrough delivers multiple leaps for the users and industry:

- Instant image generation that responds as users type – a first in the field – enabling rapid iteration, greater control and better experimentation
- Improved sustainability through greatly reduced energy consumption
- Consumer-grade affordable hardware requirements (e.g. a single high-performance GPU) that mean individuals and small studios can create imagery affordably
- Open-source availability enables global innovation, adaptation and variations
- No cloud dependencies or subscription fees.

Professor Adrian Hilton, Director of the Institute for People-Centred AI at the University of Surrey, said:

"We believe we're the first in the world to achieve interactive image generation at this scale and efficiency. This opens up access to state-of-the-art AI for image generation and is just the beginning of our commitment to democratising creative AI tools. Our Institute will continue to develop open-source, groundbreaking technologies that put professional-grade AI capabilities into the hands of creators everywhere.

"We're particularly proud of the great work that our SketchX Lab, creating new concepts and advancing the science of generative AI. Our research is focused on ensuring that the future of creative AI technology is inclusive, responsible and accessible to all, and we're keen to continue to work with organisations that share this ethos."

The technology is available immediately through https://chendaryen.github.io/NitroFusion.github.io/, with comprehensive documentation and community support resources.