

**Imperial College  
London**

ESTATES OPERATIONS

# PEOPLE PLACES SPACES

April 2023

**De-steam  
ahead!**



## Inside this edition:

**Lab-hours  
of love**

**One life, one day  
- Roger Smith**

**Give them your  
Trespa**



# Welcome

from Nick Roalfe

This 'welcome' piece is always a source of pleasure for me – and not just because it heralds a holiday! It reminds me that I now have multiple points of contact with you all, as well as multiple ways to celebrate and showcase your successes. This publication, perhaps the most tangible and

long-lived method, has become an established feature of the Estates Operations' community since it was introduced, just over three years ago. I hope you continue to enjoy it as much as I do.

It is worth re-stating that the choice of our printer, Seacourt, was made with full consideration to the environment. They are a B Corp business (verified to meet high standards of social and environmental performance, transparency and accountability) - their sustainability

statement is contained on the back page.

I mention this because we touch on sustainability issues in a number of articles in this edition of 'People, Places, Spaces'.

- Our cover story is an outline of the big project on South Kensington Campus to reduce our legacy steam heat network, and the benefits that will ultimately bring.

- We explore some of the many smaller day-to-day activities in a three-page feature and discuss the potential to build-in an official 'recovery' or 'reuse' stage for materials into our many refurbishments.

- We spotlight how we are trialling cleaning methods that can be less harmful for our environment.

I'm proud of the lead on sustainability so many in our team have taken over the years, and I am pleased we now have a Sustainability Manager, Mark Wilkinson, who will take on many of the challenges and furthering our ambitions as we help the College to move towards net zero.

The consultation round on the new College Strategy has just ended, I do hope that you took the opportunity to feed into that, particularly any ideas you may have to support sustainability efforts.

It just remains for me to say, enjoy this edition, enjoy your Easter break, and my thanks to you all for your hard work so far this year.

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### Alternative format

This magazine is available as a downloadable PDF on our website at: <https://www.imperial.ac.uk/estates-facilities/about-us/people-places-spaces/>



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## GERF - (Getting the Estate Ready for Festival)

This year's Great Exhibition Road Festival takes place 17-18 June. The free festival is a collaboration between Imperial College London, and our neighbouring institutions. The theme this year is 'awe and wonder'.

Two of the Building Operations team attend the GERF Production Committee meeting with internal colleagues and GERF Working Group meeting with external partners to liaise on the requirements made of Estates Operations. This year's representatives are Assistant Building Managers Aimée Buirski as lead and James Blackman as support. Head of Soft Services, Nic Dent also attends the GERF Production Committee meeting specifically for requests of his department such as waste collections and assisting with set ups.

Estates Operations will provide new power poles near Chemistry building to provide additional power sockets to increase the flexibility of potential lay-outs for the festival. Aimée and James also receive assistance from Mark Pearce from Maintenance concerning services under the Queen's Lawn and suitable locations to erect structures. On the weekend itself the Maintenance Team provide resource on call, with an additional two team members coming in to boost the north and south teams.

As part of the festival's attempts to be as sustainable as possible they provide potable water to guests attending from two points on Campus. Estates are charged with ensuring that the sources that the water comes from is of acceptable quality so the team have already confirmed this information. That will not detract from the nervous wait before the festival starts as samples will also have to be taken closer to the time and tested.

The full list of those involved is Royal Commission of 1851, Discover South Kensington, Natural History Museum, Royal College of Music, Science Museum, V&A, Royal Albert Hall, Japan House London, The Royal Parks, Goethe-Institut, Institut Francais, Kensington + Chelsea Art Week, Royal College of Art, Royal Geographical Society (with IBG) and the event partners are the Royal Borough of Kensington and Chelsea and Westminster City Council.

For more information about the activities on offer, and how you can volunteer this year, please visit the [festival webpages](#).

## Hellos and goodbyes



Chief Operating Officer (COO) Robert Kerse (left) joined in February. He has renamed services under him COO Team.

Tony Lawrence is confirmed as Chief Financial Officer.

Laszlo Radva is providing Assistant Building Manager cover for Peter Bodi's paternity leave.



Sustainability Manager Mark Wilkinson (left) joined in March.

Buck Buckingham has joined on secondment from Inviron.

Minor Projects Manager Sally Karrar said goodbye, as did Mechanical Engineer Stephen Ng.

## Bill bows out!

Maintenance Manager Bill Baggot retires this month after 35 years with Imperial. We wish him a very happy retirement.



# Employees of the Quarter



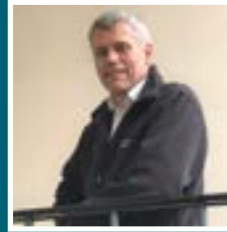
We have four fantastic Employees of the Quarter to celebrate this edition.

Maintenance supervisor Terry Bent (top left), Maintenance Building Surveyor Mark Pearce (bottom left), Soft



Services Coordinator Sonata Petrauskaite (left) and Quality Audit and Compliance Manager David Traske (top right).

Each receives a certificate and gift vouchers. Full details of their citations have been shared in the weekly newsletter and on our digital screen in Sherfield building at South Kensington Campus.



Congratulations to each of them.

If you would like to nominate a colleague for their contribution to College Values the nomination form is on our webpages.

## Learning and development

Please visit the Estates Learning and Development One-Stop Shop for further information about these and other courses available during 2023.



### ● Asbestos Awareness

20 April, 17 May, 6 July:  
9.30am - 11am

### ● Laboratory Animal Allergens (In person)

11, 12 May:  
11.30am - 12.10pm  
23 May: 11am - 11.40am  
24 May: 2pm - 2.40pm

### ● Steam Plant Maintenance (in-person) TBC

● Steam Awareness (in-person) TBC

### ● Estates Staff Forum

8 June: 1pm - 2.30pm  
14 Sept: 11am - 12.30pm

7 December: (in-person celebration) 1pm - 8pm

### ● PASMA Mobile Access Tower (in-person)

20, 21 July: 8am - 4pm  
August: TBC

### ● SharePoint Essentials

24 May: 10am - 12.30pm

### ● SharePoint for Owners

June TBC: 10am - 12.30pm

It's just after 10am on Monday and Roger Smith is on the phone to a contractor. The clinical waste at White City Campus hasn't been collected for a week. "We are overflowing," he says politely but firmly, "we emailed you about this on Friday."

"No, it is not acceptable to wait until Wednesday," and so the conversation goes, until it is escalated to the account manager and Roger's manager. Another email with photos, and eventually confirmation that there will be a collection later today. It's another day in the life of the Hazardous Waste Coordinator, writes Jan Carberry.

We backtrack to the beginning of the day, up by 5am and on the train within the hour for the two-hour commute from Kent. Roger used to be grounds staff at the former Wye College before it was sold and he transferred to South Kensington in 2009.

He had some knowledge of chemicals, fertiliser, pesticides and the like, so the transition to his current role was logical when the Central Safety Team passed the management of hazardous waste to Estates. "There was a good support network (there still is, I have a supportive line manager, Ian Davison) and I learned from them, and also from our contractors!"

"I deal with everything from car tyres to Cholera toxin," explains Roger, "but not biological contaminated, radioactive or asbestos waste." The majority is solvent waste, including that from our partner organisations, including the Trusts and the North West London Pathology Services. Reciprocal arrangements exist with the NHS. Other types include legacy waste (hidden in the back of cupboards) clear-outs and moves, such as planning ahead



**“YOU CAN'T JUST CHUCK IT IN THE BIN”**

## One life, one day – Roger Smith

with National Heart and Lung Institute for their move.

Back to the start of the day: routine checking of email and reports on the Planon system used by Customer Services, to pick up anything requiring action, either immediately, or later, including required paperwork.

"We have a duty of care for the disposal of our waste, he says, as he explains the systems in place. "We have to know legally what we are disposing of, and people are asked to fill in pre-acceptance forms before removal. We often have to chase and follow up on these forms." The forms are part of the chain of processes which enable us to be compliant and for traceability. Among details required are the name of the chemical and symbols, the number or size of the item(s), hazard codes, and properties. All waste is individually numbered and recorded by the receiving contractor. (They have UN and European Waste Catalogue identifiers) for traceability. Roger also carries out audits. "I check what we're passing to our contractors and that they are disposing of it correctly."

Some of the waste is moved to our safety stores prior to the contractor collecting, other material is collected directly from the department. There are many different arrangements which Roger manages, with some such as MSRH at White City having their own stores, and different collection rotas.

Hazardous waste disposal is serious stuff, but there is always room for some black humour. There's the time when called on to dispose of 'dummy explosives' left in a newly decorated room in full sun on a south facing windowsill. "They were like sticks of wax, some were marked submarine blasting gelatine, with 'dummy' written in felt pen. The room user had wanted to 'chuck it in the bin', but a sensible colleague, suspecting some could be live, contacted us. They were probably right, as we heard that when it went to the kiln, there were some explosive sounds."

A not uncommon request made of Roger is 'my father has died and there are some chemicals in the house', conjuring an image of the old emeritus professor who continued to toil over experiments in a home lab.

When it's time to head for home it's to wife Jan, usually just to relax or running around as a hands-on granddad. But when time allows he's out in the man shed where 'I like making things' happens. Among his crafted pieces is the four-poster bed his wife always wanted – though that was built in the spacious workshops at Wye. He leads a monthly gardening group for the upkeep of the grounds of his church and when possible heads out camping. His wife has limited mobility but this hasn't stopped them, as their car is converted to a perfect glamping vehicle.

## Plus 30 years



**Mark Brookes**  
Logistics Operative

## 20 years

**Paul Edwards**  
Maintenance Technician

**Shauna Murphy**  
Head of Space Management  
and Planning

## 15 years

**Alyson Brewer**  
Records and Archives  
Officer

## 10 years

**Fergal Burke**  
Senior Development  
Manager

**Paul Felton**  
Quality Assurance Manager

**Steve Walker**  
Fire Safety Advisor

**James Blackman**  
Assistant Building Manager



We meet two of our long serving colleagues who celebrate major service milestones this year.

### Herbie Lewis, Maintenance Manager

"I joined Imperial on 8 August 1983," says Herbie Lewis proudly. To gain his apprenticeship role at College he'd had an interview, where he showed the aluminium lamp he had made turned on a lathe, and sat a test. "That was in a High Voltage (HV) room, that wouldn't be allowed these days," he laughs.

He was fresh out of college, with a City & Guilds Foundation Distinction in Mechanical Engineering, and had heard of the vacancy through a friend of his Dad's, who had seen the job for a three-year craft apprenticeship advertised on a College noticeboard (right).

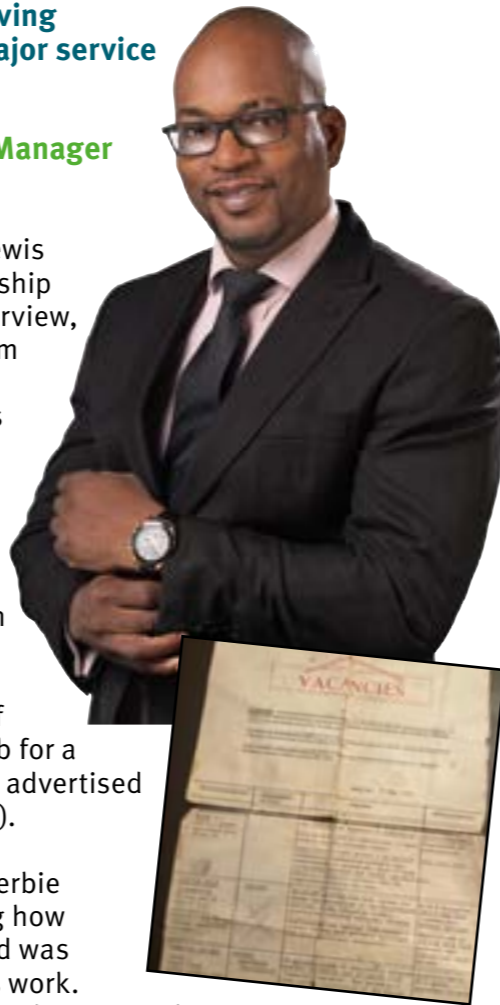
His Dad was a carpenter and Herbie (above) had grown up watching how things were made and fixed and was always intrigued by how things work. During his Foundation course he'd spent work experience with both British Gas and at a local hospital, St James's, within its Estates department, which set him on his career path.

### Lathe turner

At Imperial he started in the workshop, as a lathe turner, where back then a lot of parts were made rather than ordering them. "Imperial has always been good at progression", he says. "I had moved onto numerical controls, programming, but knew I didn't want to be behind a machine all day, I decided I wanted to learn about heating and ventilation, and the College paid for my studies to do so." He became a fitter, then advanced fitter, then leading hand, then became a shift engineer for the higher rates of pay to support his young family. He applied for a role as a deputy manager and was a bit miffed when he didn't get it, but he soon got a supervisor role.

"I've worked across a third of the buildings on campus at South Kensington," he says, reminding those who nowadays think of him as Mr White City. It was in 2014 and the development of White City Campus that Herbie went over to witness the vast amounts of commissioning that was taking place, becoming manager in 2016. He brought Chris Khan over to join him. "We make a great team."

He talks about change. "There used to be a fitter in every building, there were more mechanical things to do and to go wrong. A lot of those things are gone. Things are manufactured for less maintenance, with less to go wrong, and there is more automation, especially on the



# Celebrating long service

The Estates Operations' Long Service Recognition Scheme celebrates those serving 10, 15, 20, 25, 30, 35, 40 or more years, and those who are retiring.

At significant work anniversaries each long-server receives a certificate in a presentation folder and a letter from their Head of Department.

control side of things. That's what drives the skill set now."

"Now I can be at home and control my building from there," he says, "although the controls might tell me something is wrong, you still need to be there to understand the detail and complexity of what is wrong, take a flood for example."

"Mindsets have changed too. Now we are more aware that we would not be here than for the students, that we exist to optimise the student experience. That was often forgotten in the past."

Outside of work Herbie was once a very keen Salsa dancer – also teaching beginner classes, and a keen music fan, enjoying small venue performances, but his main love is football. He is proud of how both he and his son were once playing in the same local league team together, and of the coaching role he has played for many years.

The last year has been cruel to Herbie, as he has suffered serious illness which kept him hospitalised for months and has prevented him from continuing his favourite hobby. However, he is undefeated by life's blows, and has been easing himself back to work starting with short days and light duties, mainly from home. He was touched by the support and messages from his colleagues during the worst part of his illness which reflects for him the essence of the spirit of the College and why he has worked here for 40 years.

"It has been a long process just to get back on my feet (literally) and I send heartfelt thanks to all those who travelled up north to see me - that really lifted my spirits - and each and every person that phoned, sent videos, voicemails and text messages. All were gratefully received and really helped me, Julie (my fiancée) and all my family through a rough time."

### Tina Pinto Gomes, Cleaning Operative

Tina Pinto Gomes (right) first came to work for Imperial in October 1978. "It was the same year my daughter was born", she says. She is still here and

now has two children and two grandchildren!

The cleaner, responsible for floors in Roderic Hill, left her native Portugal aged 20. When she first came to Imperial she lived within walking distance of the South Kensington Campus and her 6am - 9am shift meant her husband was with the children and she would be home in time for him to get off to his job.

After a couple of house moves she now lives in Neasden, setting out at 4am and taking two buses to get to the job she has loved for all these years. She says: "I'm very happy here, the people are nice, it's a fantastic place to work" adding, "I always say good morning, and I always get a 'good morning Tina' back from the students and professors."

### Contented

Tina is a very happy and contented person, with a radiant smile and only good to say about everyone and everything. She talks of the friendship she has with an elderly neighbour, who in turn helps her practice her language skills, the time she devotes to her children and grandchildren, and the close ties with her family back in Portugal, despite the distance.

Continuous service for Tina this year is officially marked as 30 years, but her association is now 44 years.

"I want to work until I'm 70 at least," she says, "if I remain in good health, as that's the only thing that would stop me."



# MAN & A VAN!

## Andy hits the road in his camper conversion

Andy Hammond spent five special days in Dubrovnik, Croatia, last summer celebrating his daughter's wedding. The journey he had taken to be there had begun a year before.

Andy said: "Covid had been with us for nearly a year. I'd seen lots of stories of people converting their vans to campervans for a cheap way of holidaying in the UK. I investigated and thought this would be a great idea, and something that would help with a completion date would be our daughter's wedding. We could take three weeks leave and drive to Croatia, stopping in several countries enroute."

With panel van prices increasing because of demand, and with time ticking by Andy extended his initial search to minibuses too.



"We found a 17-seater Ford Transit minibus that had belonged to a church, it had very low miles, 28,000, but a bit of a distance from us. We called the garage, they still had it, and we left that evening, money in hand, and bought it for £7,700 straight away."

So began the first stage of the journey – conversion. YouTube was a source of nearly everything Andy, Head of Engineering, Energy and Environment, needed to know. He was able to put together a plan of action, along with a materials list with costs



and got to work, first ensuring he ordered the equipment required in case of delays.

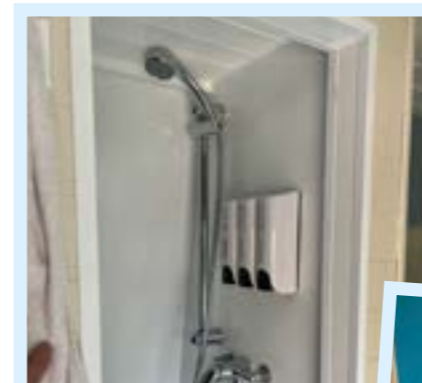
He started by ripping out all the old seats in the van and stripping it back to the bodywork (below). "I had to ensure that the van didn't vibrate too much, the answer was to stick anti-vibrations pads to the metal surface, next I insulated the whole van as much as possible."

He did this by creating a frame which he clad over, after installing the wiring for lights and power, replacing the flooring with insulation and plywood and finished off with vinyl (below).

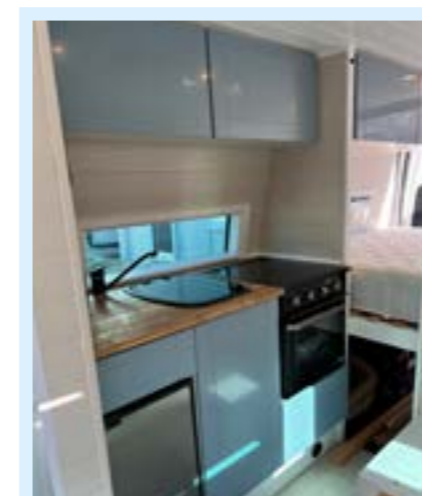
Andy said: "I then started to build the inner framework for the shower enclosure, bed, table, and



kitchen area. I installed a combined shower and toilet to the front of the van (below and



facing). The kitchen cabinets came from B&Q, cut down to size, I installed a gas oven and a 12v fridge with sink for running water (below). The water would be fed from a tank underneath the van with all pumping equipment, with



a wastewater tank underneath too." (facing, right).

At the rear he built the bedframe (main photo, left), quite high up to allow for space underneath to house the boiler and electrics as well as storage (facing). The boiler is a combi that can run on gas and electric when hooked up to a local power source, the costliest individual item at around £1,500. This provides hot air, heating, and hot water.

The electrics are supplied by two large 12v batteries recharged by

solar panels on the roof (top right). These cost £350 of the budget. The batteries



supply power to all the electrics for the living area, an electric hook up was added



to the side of the van for when at campsites. A gas tank (top) was fitted underneath the van to supply the boiler and cooker.

Then it was time for the finishing touches for comfort, blinds were fitted to all the windows, cushions for the seats and all interior furnishings.

In all it took a whole year of working at weekends and when time allowed, and cost around £10,000 in materials and appliances.

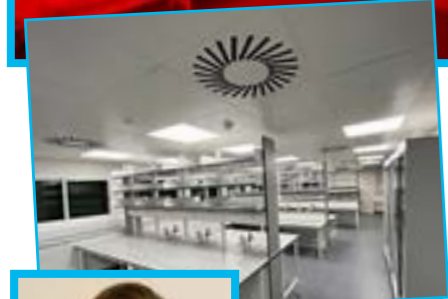
And so the second stage of the journey began, the trip itself! They went through France, Germany, Austria and Slovenia on the way to Croatia, and on the way back through Slovenia, Italy and via the south of France,

stopping a few nights in each country, chasing the good weather.

Andy said: "We had a fabulous trip driving around 3,500 miles through Europe over three weeks with the highlight in Dubrovnik for Danni's wedding."



# Lab-hours of love



**Project Manager Kirsty Scallan (left) is forensic in reviewing her projects and**

**communicating lessons learned from them. Here she reviews three very different lab refurbishments in the last 18 months and lays bare some of her findings.**

The biggest and longest-running refurbishment was phase two of Blackett 2001. Costing £3.2m, it provides the same high quality, flexible laboratory space to third and fourth-year undergraduates, Master's students and research groups that phase one provided for first-year students.

Kirsty said: "It was a challenging project, construction spanned Huxley and Blackett buildings with lecture theatres surrounding us. Noise restrictions dictated the programme and required careful coordination to mitigate disruption."

It was a first project for a contractor new to the College, Ark Build. Kirsty said: "This added an extra level of complexity and hand-holding." It was teamwork that pulled the project through, collaboration from Ben Shelbourne at Stace LLP, the external project manager, Doug

Hudson, the user coordinator and the support from the building management team, Jolene Burger and Ivan Carromero Manzano. Doug said: "It was a steep learning curve for Ark. A strong collaborative approach was much needed."



Jason Hoadley, user coordinator, and Assistant Project Manager, Gabriel Reyes." Jason said: "Kirsty and Gabriel worked tirelessly and I cannot praise them enough."

From the experience Kirsty recommends that tenders should include the requirement of a design manager to coordinate the Stage 5 design process. She makes the same recommendation for the second of her projects, the rock preparation labs in Royal School of Mines, for the Department for Earth Sciences and Engineering.

This was a £500k refurbishment of two areas after 20 years untouched. "This was another challenging project," said Kirsty. The contractor BSPS Ltd, was also new to College and the project overran, long delays for materials being one reason.

Kirsty believes this project has taught us that while the College needs a robust pool of contractors from which to choose to remain competitive, there should be a familiarisation programme for those new to our practices and requirements - new contractors being awarded smaller projects initially to support familiarisation.

Kirsty commented: "I could not have got the contractor over the line without the assistance of

The third project, delivered by contractor Russell Cawberry, was for the Department of Life Sciences to relocate medfly activity to Sir Ernst Chain building level 1 from overcrowded facilities in Sir Alexander Fleming. This project too was affected by delays for materials. A well-developed, thorough, client brief set the tone for a successful delivery notes Kirsty, and there was a design manager to coordinate the Stage 5 design process.

Kirsty said: "Emma Sharp, the user coordinator, was key in the design process and her collaborative approach throughout was integral in what was ultimately, a very successful project. Gabriel Reyes was key in assisting in the logistics and project management of various aspects and his involvement was invaluable."

Emma, user coordinator, said: "I felt the design process went fairly smoothly ... and appreciate the approach to design management meetings to close out any potential scope gaps."



**TOP RIGHT: THE ROCK PREP LAB. TOP LEFT THE MEDFLY LABS AND ABOVE AND RIGHT THE CHANGES IN BLACKETT**



# Heavenly staircase

**The Grade II listed 52 Princes Gate is directly facing the College main entrance and the Business School.**

Fitting then, after two years fallow, it has now been refurbished and upgraded as the new face of the Business School, providing a new high quality office location for the Dean, Vice-Dean and Faculty Operating Officer (FOO), and their operational staff.

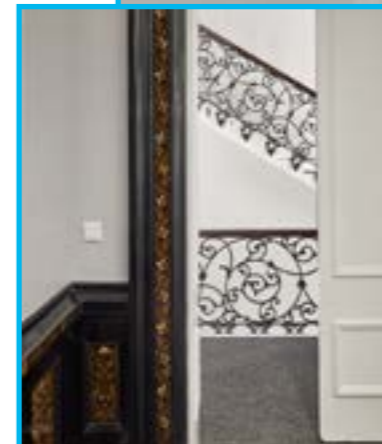
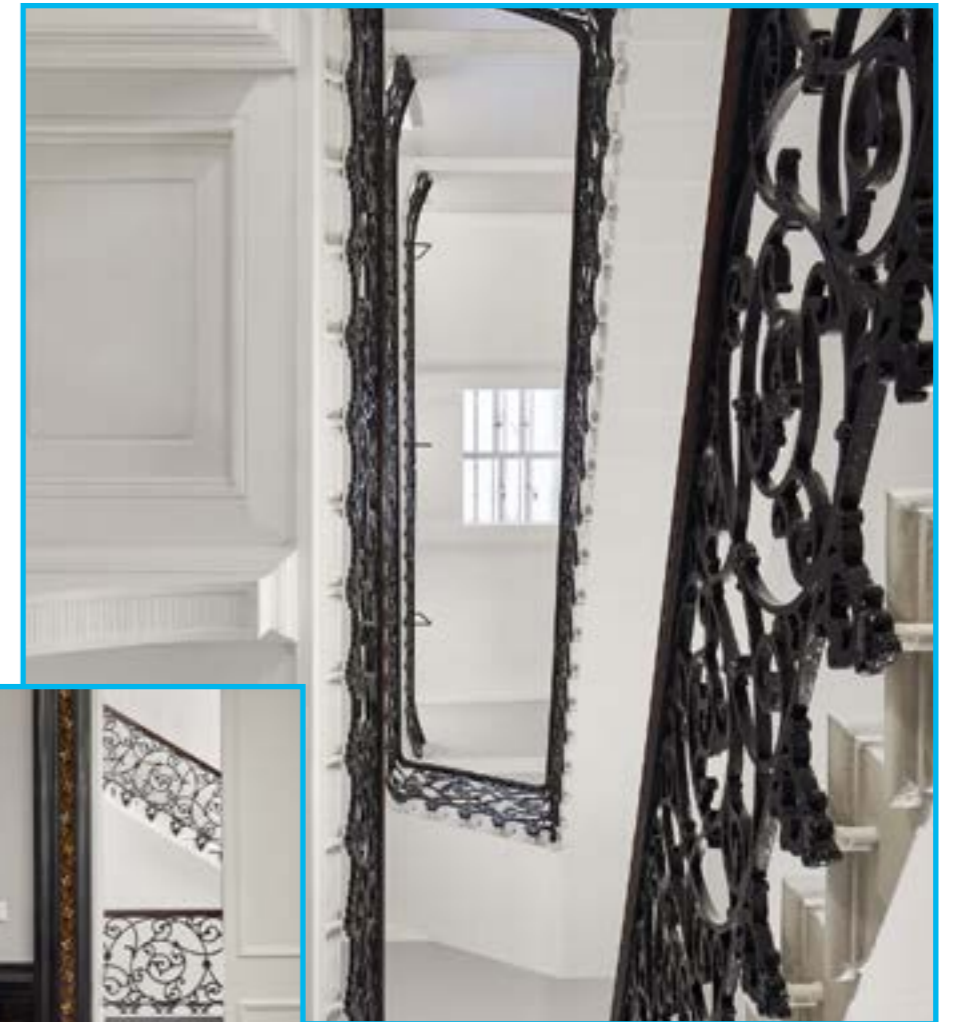
The new occupants of the historic six-floor building moved in in February after the basement, ground and levels one to three were refurbished.

On level one, three new offices were created, the 'Dean's Suite', housing the Dean, Vice-Dean and Faculty Operating Officer (FOO). Levels two and three, ground and lower ground now provide flexible working spaces for operational staff.

Visible to them will be the new intercom at the front entrance, new energy efficient LED lighting throughout the entire building, the new carpet, kitchens and tea points in the smart new air-conditioned offices.

The refurbishment project, led by Sally Karrar for the Minor Works Projects Team, also involved extensive behind the scenes overhauls to existing mechanical and electrical plant.

Staff are less likely to be aware then of the refurbishment of the Otis Pass lift to bring it back into use and extend its lifecycle



by more than 10 years, or the works to the air handling units, or the extensive protection afforded the beautiful original panelling both during design and construction. They are never likely to see a new safety rail installed on the roof around the smoke vent.

In all the £1.3m project, delivered by Quest Interiors has taken around eight months from conception to completion.

**TOP RIGHT: THE STAIRCASE LOOKING UP TO THE ROOFLIGHT. ABOVE: LOOKING TOWARDS THE STAIRS FROM ONE OF THE OFFICES. RIGHT: ONE OF THE MODERN FLEXIBLE WORKING AREAS**



# De-steam ahead!

## Cover Story:

When College was awarded a £12.3m grant in March 2022 to remove the steam network from South Kensington Campus the race was on.

Although College would be match-funding the Government public sector grant there were time constraints, it was either 'use it or lose it.' The risk to finances was too great to lose it.

Agreements made and the works, which for this project support not just our own but the UK targets for decarbonisation of heat, are now underway.

Estates Operations' Rod Coppard is managing the project, which apart from the work currently underway on the Queen's Tower, is probably one of the most visible on campus. This is because of the size and scale of the works being



● TOP: HOARDINGS GRAPHICS, ROD COPPARD, ABOVE RIGHT: ONE OF THE TEMPORARY BOILERS, ABOVE: AN OIL TANK IS CRANED INTO POSITION



undertaken all at once to meet the timescale.

Hoardings and contractor areas are temporarily dominating almost every area, and there is something happening within or in the environs of every building.

It really is an example of no pain, no gain, although despite this, everything possible is being done to minimise impact and disruption.

The works to complete the project have been broken down into smaller packages. These include design and enabling works before the main body of works can take place, temporary boilers for both the north and south halves of campus, steam network upgrades for both the north and south halves, works to the Energy Centre and replacement main boilers.

All of this is taking place concurrently with upgrade and replacement works in all buildings - which have been grouped into three main batches.

As we went to press at the end of March an important milestone was being reached. Temporary boilers were being delivered and once they and the pipework are in place, this will allow the old ones to be cut from the supply, and there will be no turning back.

To move forward oil will be used during this phase, as it is impossible to take gas to two of the temporary boiler locations.



This though, is a lower carbon alternative - hydrotreated vegetable oil (HVO), a paraffinic bio-based liquid fuel originating from many kinds of vegetable oils, as well as animal fats. A 6,000 litre oil tank, and as our front cover photo shows, a 20,000 litre oil tank, were craned into place to hold the fuel for the boilers.

Getting to this stage has required more work than most would be aware of: many site surveys for various reasons, tendering for contractors, planning applications for the numerous consents required, safe removal of asbestos,

design of pipework and installation, temporary flues, temporary disconnections, temporary connections, scaffolding, meetings with building users, and all without the luxury of the timescales normally required for a project of this scale and complexity.

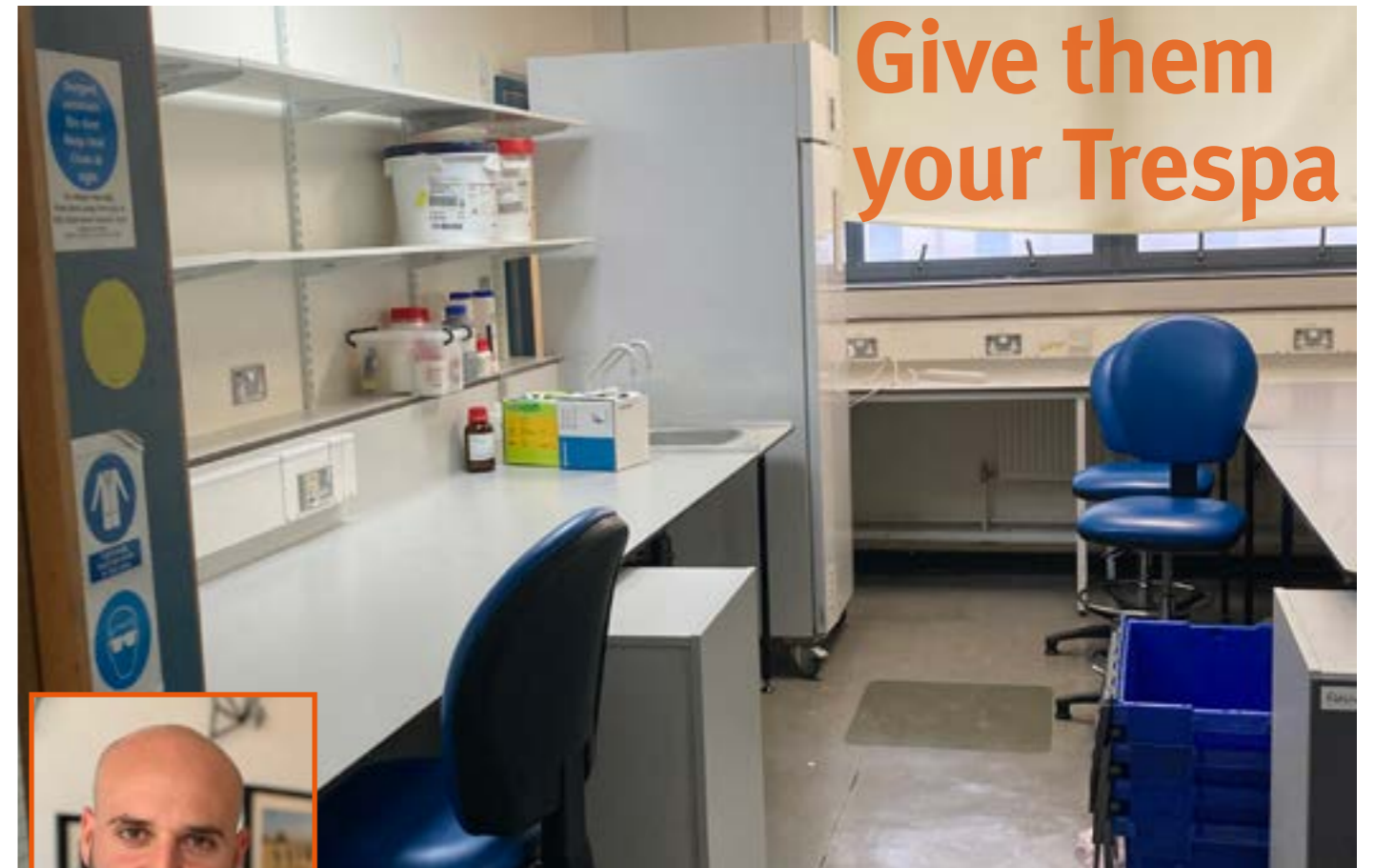
There is more of the same to come in each of the packages and each of the batches pushing on towards the ultimate goal.

The question then, is what will that goal look like? Two heat networks will be replaced with just one, with 2.74km of pipework removed, the energy efficiency will reduce the College's carbon footprint by 2,400 tonnes each year and cut the fuel bill by £4m each year; a first of many steps towards Net Zero.

Regular progress updates are made available and can be downloaded on our ['current project' webpages](#).



# Give them your Trespa



When talking about sustainability in projects we often think about green energy, low embodied-carbon materials, BREEAM (green building certification), reducing energy consumption, high efficiency plant, and so on. But what about reuse?

Refurbishments are the majority of College building projects. Should there be a new stage - 'recovery' - which fully explores reuse potential of materials before the refurbishment?

We focus on an active example of this thinking, led by Project Manager Paco Villegas Ruiz (inset).

The Clinical Research Building (CRB) refurbishment at Hammersmith campus is an excellent story of reuse collaboration across the College. Levels 2-6, formerly occupied by MRC London Institute of Medical Sciences (LMS) external to the College, were vacated back in December 2022. The floors are to become part of the Faculty of Medicine premises at Imperial, homing the National Heart and Lung Institute.

The former occupants handed over the space to College, who in turn handed to Mace, the main delivery contractor for the new scheme.

Contractual obligations dictated that as LMS vacated they had to clear all loose items, leaving anything fixed behind should they wish to do so. This meant

that a lot of fixed items would remain in-situ and be part of the strip out/demolition phase under the refurb project.

With a quick glance at the photos above and below you'd just see empty spaces ready for redundant services to be stripped out and demolished; however, a keener eye could see that there were a lot of items that could be recovered and reused as spares for maintenance or even small refurbishment projects. That's where conversations began across the teams and plans emerged to recover and reuse as many elements as possible. This collaboration exercise led to the recovery of dozens of luminaires that had been fitted in the building in the last two to three years, hand dryers in perfect condition and perfectly working gas detection systems. All can be



## INNOVATIONS

**THE ENGINEERING, ENERGY AND ENVIRONMENT Team** have a major role in sustainability at the College. As well as in the example at CRB identifying and reclaiming controls for reuse, they are also behind sustainability developments of the type you might traditionally think of.

A current project is to install new high performing internal solar window film on the glazing of the Electrical Engineering building on South Kensington Campus. The project is an outcome from a thermal modelling exercise carried out for various floors of the building. The exercise explored the effectiveness of different temperature mitigation measures. The new film is a passive measure that will reduce the amount of solar heat gain and help to further mitigate the temperatures in the building.

It is this team that has taken proactive steps to improve College water conservation efforts. These include the introduction of smart devices on water meters and water-saving technology. New billing systems have enabled more detailed data gathering on water consumption, identifying opportunities for further reductions of use and costs. For example, spotting high consumption has enabled timely resolution of faults and leaks. Along with this the replacement of components in around 1,400 bathrooms has reduced consumption.

## WHAT'S IN STORE

**MAINTENANCE TEAMS** have long kept stores of useful reusable materials for small repairs or user requests, say a new shelf, more so back in the day of wooden labs. It is not now always practical. John O'Brien, Supervisor at St Mary's said, "There was a lot of Burmese Teak back then. It is more Trespa now for Health and Safety reasons."

## GRAB A FREEBIE

**BUILDING OPERATIONS** are often privy to furniture that is being decommissioned by a department and share the information about the free items which are available. Requests can be made to Soft Services team to get items moved, or users can make their own arrangements. Aimée Buirski, Assistant Building Manager in Sir Alexander Fleming Building, South Kensington Campus, said: "I recently found homes for 14 1000mm x 800mm desks."

reused, and the latter will be repurposed somewhere within College for a fraction of the cost of a new system. Allan Webb, Maintenance Manager for CRB, and his team have been key in the recovery of these items.

We then looked beyond the obvious, at what appeared to not have further purpose; for example, used, old Trespa benching. This is an extraordinarily tough material used in labs because of its high resistance not only to physical stress but also to chemicals. However, these useful properties also make it difficult and costly to recycle/dispose of. That's where the Advanced Hackspace at Stadium House and Dyson School of Engineering raised their hands and said: "we'll get a few of those and transform them into something useful". And that's exactly what they have done. Thanks to the can-do attitude from David Pitcher (Advanced Hackspace), the old Trespa now looks fantastic after going through the capable hands of his team (see 'That's the way to do it' opposite). Ingrid Logan, Technical Services and Safety Manager at Dyson and her team also have great plans for the panels they rescued.

### Recovery Phase

The 'recovery' phase finished with the trigger that started all the 'reuse' thinking on this project, BMS controllers. Months ago, during the design phase, Mark Reader, College Controls Engineer, highlighted to the team that we should recover as many BMS controllers as possible, as they could either be reused during this project or on any other project the College undertakes. This is because all the existing controllers had been fitted just three to four years ago and were in good condition. They have all been recovered (above) and are now safely stored.



This collaborative exercise alone has saved the College tens of thousands of pounds worth of equipment that will be reused across new projects and maintenance repairs.

This success story is the reward from great collaboration not only across Estates Operations (Maintenance, Engineering and Projects), but also within the wider College network (Advanced Hackspace and Dyson School of Engineering); Together we are Imperial.

## That's the way to do it

Advanced Hackspace is a prototyping workshop and laboratory open to all students and staff. As part of their successful President's Community Fund award of £150k the Hackspace biochemistry lab was expanded significantly over the summer quadrupling the floor space. Luckily this coincided with the renovation of CRB and the demolition of Forest House. Trespa benching, sinks, taps, wall mounted drainers, CO2 switchover equipment and gas bottle mounts were reclaimed and saved from landfill.

Although some equipment at the CRB had already been disposed of, the teams found a vacuum concentrator that had been marked for disposal as the lid and seal were missing, exhaust port broken and rotor bearings seized. With a little TLC and around £50 worth of materials this essential piece of equipment was brought back to life for Hackspace.

David Pitcher and the other Hackspace Fellows have been busy repurposing the reclaimed Trespa. It has been turned into storage for consumables for some of the Hackspace 3D printers (above right).



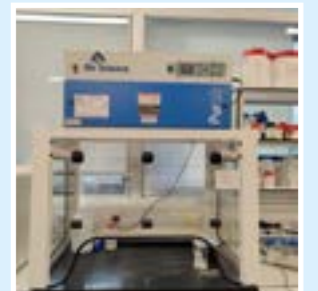
These printers use resin which is hazardous in its uncured form and therefore non-porous wipeable surfaces are important. A new waterjet cutter needed a cabinet to house the computer, spares, and ancillaries. A custom cabinet has been built that fits the awkward space and would not be affected by spillages and spray (left).

David said: "We are really grateful to Paco Villegas Ruiz, Fergal Burke and others in Estates Operations that have allowed us to rescue these items. We have estimated that the reuse of



those materials and equipment have saved us more than £50k, freeing up more funds for new scientific equipment."

In addition to the refurbishment salvage the team have found and repaired a number of items advertised on Warp It. (See reuse schemes below). In addition to the blue cabinets, drawer units, shelving and an isolated weigh table reclaimed from a lab refurbishment on the South Kensington Campus (top right), this fume hood (right) was advertised as non-functional. A broken flow sensor wire was repaired at effectively no cost and the machine has subsequently passed service inspection.



## REUSE SCHEMES

**WARP IT (Waste Action Reuse Portal)** is a redistribution network, which works in a similar way to Freecycle, but for organisations rather than individuals. Departments can give away, loan or claim items unwanted by others. Items which can be reused include furniture, stationery and unused printer cartridges, but not electricals. To use you need to register at: [Warp-it.co.uk/company/imperial](http://Warp-it.co.uk/company/imperial).

**UNIGREENSCHEME** specialises in the free collection and resale of high-value laboratory equipment, ranging from pipettes to industrial sized autoclaves. Other types of equipment they'll collect include analytical equipment, biosafety cabinets and fume hoods, industrial equipment, teaching equipment, and AV equipment. Once they have recovered the associated processing costs of a collection, they then split the profit on any resale value with you. For more details visit [unigreenscheme.co.uk](http://unigreenscheme.co.uk).



# Holidays, celebrations, diversity days and events

|   |          |                              |                  |
|---|----------|------------------------------|------------------|
| ● College re-opens                        | 13 April | ● Spring Bank Holiday        | 29 May           |
| ● World Day for Safety and Health at Work | 28 April | ● Windrush Day               | 22 June          |
| ● Early May Bank Holiday                  | 1 May    | ● The Hajj                   | 26 June – 1 July |
| ● Coronation King Charles III             | 6 May    | ● South Asian Heritage Month | July             |

## Cleaning up cleaning methods

Keeping College clean has its own effects on the environment. Cleaning products can contain harsh chemicals and have health implications – especially for those working with them. As a result, Soft Services has to ensure compliance with the Control of Substances Hazardous to Health Regulations 2002 to protect employees and others from the hazards of substances used at work through risk assessment, control of exposure, health surveillance and incident planning. There are also duties on employees to take care of their own exposure to hazardous substances.

Nic Dent, Head of Soft Services (above) said: "Currently we are trialling a new system which would remove some of the chemical cleaning materials from the College."

A Purex water system has been installed and trialled in Chemistry building, South Kensington Campus. It is plumbed into the mains water system where tap water goes through seven stages of microfiltration to create the Purex product. The initial stages of filtration remove elements such as chlorine, natural minerals, grit and other inorganic compounds such as calcium.

The second stage involves reverse osmosis, a water purification process that uses a partially

permeable membrane to remove ions, unwanted molecules and larger particles from water. Reverse osmosis removes many types of dissolved and suspended chemical species, as well as biological ones from water. The membrane (filters) do not allow large molecules or ions through the pores, but do allow smaller components of the solution (such as solvent molecules, ie water) to pass freely.

The composition of Purex water is unstable and, therefore, when passed over surfaces, it absorbs dirt and contamination to gain stability. The result is a clean, streakfree surface without residue.

This is then used for cleaning, eliminating some chemical products, and provides a greener solution. It is better for the health of the cleaning team, the environment in which it is deployed, as well as the wider environment. With the water cabinet on-site, there is an immediate environmental gain, from reduced packaging and transportation, and the storage on site reuses plastic containers, or spray bottles (made from recycled materials).

A wider roll-out is now taking place.

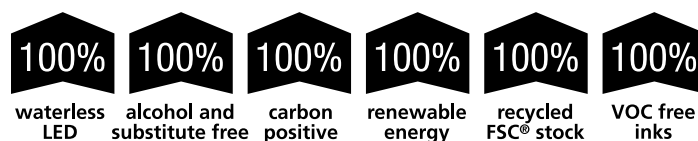


### Sustainability Statement

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Imperial College London Estates Operations is committed to the environment.

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