

**Imperial College
London**

**PEOPLE
PLACES
SPACES**

ESTATES OPERATIONS

December 2022

Groundbreakers



Inside this edition:

**It's a
cool job**

**Joining the dialogue
about CO₂**

**Celebrating our
long servers**



Welcome

from Nick Roalfe

It's customary this time of the year to look back and reflect. When driving, the rear view mirror provides the perspective of where we have come from and the distance we have travelled, but keeping our eyes on the road ahead with our route planned is highly recommended!

Please excuse me then, if in the few words I have available to me here, I focus on Looking Ahead - the theme of our Estates Forum and staff Christmas celebration.

That said, in bringing you that forward view, we have looked back to improve what we do and how we do it. High on our agenda, are:

- 2022 Staff Survey results – we've reflected on what you have said and designed an action plan
- Values Roadshows – these have been well received and we'll continue to run these
- Breakfast meetings – we will be looking to reinstate these, so watch this space!
- Utilities management/driving down energy consumption – a major challenge for the College, but one that we are working to meet head on!
- Carbon net zero roadmap – we are committed to this and are working to support the College.

Our new President, Hugh Brady, while pledging to look and learn, has been decisive in implementing recommendations for improvements that were researched and proposed before his arrival. These include measures such as Council and other management board structure changes and the introduction of support for students and help for staff.

At our forum some of my senior team will outline priorities for the year ahead which support the College in achieving its ambitious academic mission and 2020-2025 strategy.

Things have been tough, and may get tougher yet, but we must harness our optimism, energy, creativity and positivity for success in the year ahead.

I look forward to seeing as many of you as possible at the forum.

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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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Finding room for respite

A newly created 'respite room' might be a small project, but it is one that will make a big difference for many students.

Assistant Building Manager Aimée Buirski has overseen the transformation of a break-out area in Chemistry C160 into a safe space for students who need to take time away from others for any reason. She was a co-lead with the Department of Chemistry working group consisting of Faculty of Medicine and Maureen O'Brien



and effective, might well be rolled out in other buildings.

It cost £33k to strip out existing furniture, change lighting, paint walls and to carpet the area and install a breakfast bar. A further £9k was spent on new furniture, and moveable planters for zoning the space, as shown in the photographs.

Advice on the scheme functionality and colour scheme to cater for a wide variety of students including those with autism along with wheelchair users was supplied by the Disability Advisory Service. The scheme was the brainchild of Paige Noyce, Project Manager in Chemistry, and the application

supported by Charlotte Sutherell, Senior Teaching Fellow in Chemistry, concerned with pastoral care.

Paige said: "The Chemistry Department is proud to host Imperial's first Student Wellbeing Suite, made possible by the President's Community Fund.

"This space will be a sanctuary for students in need of a quiet space if they are struggling emotionally or physically.

"A huge thanks to Aimée Buirski and Michael St Clair Laing (SAF

Building Manager) for their fantastic work in realising this project!"



Maureen O'Brien, Head of Disability Advisory Service Student Services said: "Thanks everyone – it is a great credit to the Chemistry department."

Furniture was supplied by Portsdown and works carried out by Oakland contractors.

In the west wing

Works are underway in readiness for the move of the Department of Infectious Diseases from their current home in St Mary's Medical School to Sir Alexander Fleming building, South Kensington in 2024. Works will take place primarily on Levels 1, 2, 3 and 6 of the west wing and in part of Level 1 of the atrium. Additional smaller spaces are being refurbished throughout the building. In total around 3,000m² will be transformed provide containment labs, clean, cold, freezer, dark and media prep rooms. There will also be associated office, write-up space and areas for collaboration. The project will achieve a BREEAM 'very good' rating for sustainability.

CHEERS!

Wishing everyone Season's Greetings.



We hope you like your Values mug and matching 2023 Estates calendar.

Employees of the Quarter



There were two separate nominations for Chris Khan, one of our Employees of the Quarter in October.

One came jointly from Bruna Santandrea and William Frame in Projects Delivery, who both spend the majority of their time at



White City Campus where Maintenance Supervisor Chris is based. The other came from his line manager Allan Webb, endorsed by Head of Maintenance, Rak Patel.

All praise his commitment which has been even more evident during the difficult and prolonged absence of his line manager.

In their nomination Bruna and William commend his "competence, commitment, and generosity with his time;" adding: "we have admired him in taking his commitment to a higher level."

The second recipient was Kevin Meehan. The Capital Financial Accountant for Estates Projects, in Finance, was nominated by Mark Batten, Estates Cost Manager.

Mark said: "His work behind the scenes is not recognised but I have first hand experience of his hard work and commitment in completing regulatory reports and returns that we must comply with but also completed to a high standard to avoid audit investigation."



Lisa Holland has a commute most would envy, a walk across a beautiful park to South Kensington Campus. She used to stop at M&S or Waitrose to pick up a sandwich on the way, but with the current energy and cost of living increase, she tends to make her own, or vary her walk to Tesco for a cheaper one.

Lisa not only minds the pennies for herself, she also minds them for the College. On the day we speak, writes Jan Carberry, she has saved many thousands of pounds. More of that later. First we settle in to a chat about Lisa's role as Energy and Environment Officer and how it has changed and evolved in her 10 years here.

She moved from Southampton to take her job, one she had applied for looking for a change of both scene and career direction and was almost surprised to get having no direct prior experience. She was delighted though and explains how joining was like a breath of fresh air after a difficult working environment in insurance. "I just loved Imperial, and the people, and being treated like a human being!" she says. She thanks Andrew Caldwell who appointed her, who she says, "jokes 'I was the best of a bad bunch,'" at least I hope he doesn't mean it."

When she first joined the bulk of Lisa's job was monitoring the utilities, akin to untangling a giant ball of wool once a kitten has finished playing with it. To a lesser extent now, she keeps tabs on the meters and sub-meters to understand the energy that is being used by building or area; monitoring that the devices around College which send information to the database are working, recording accurately and that our suppliers are billing us correctly. While much is automated, with algorithms in place which work out usage, it doesn't always mean the bills are correct. So nowadays while we have a bureau to validate our bills, Lisa uses the knowledge of patterns and trends or usage she has built up to spot anomalies. She has been keeping a close eye during this current price increase period.

She recently spent many months untangling a significant overcharge based on the higher price for consumption that was prior to the increase caused by a faulty supplier meter. College sub-meters might not be working correctly for example, say damaged during a refurbishment, or through being unplugged, or an occupant might not be being re-charged for their use. We've an increasing number of tenants to be charged for their utility consumption, for example 88 Wood Lane. She adds: "I collect and prepare the invoices or reports for Finance to recharge other parts of the College for their use, or their tenants use. I also work out the



accruals at the end of each month, which is the amount of any liabilities owing that have not yet been paid (services or utilities), a task that can be really tricky if we haven't had recent billing."

Thank goodness then that she likes spreadsheets. She tells me: "I love Excel and spreadsheets, so if I have opportunity and time to make spreadsheets for work I'm in my element. Although Colin (Nye) is definitely the new Excel wizard of the team!"

Statutory

Amongst other things, the data collected by the meters and sub-meters is used for energy reduction projects, business cases, and feed to the software company who monitor for the Energy Assessors granting the appropriate energy certificates which we must display as public buildings.

A key part of her role now is ensuring statutory requirements are met. This includes correctly registering and licensing such things as the transformer in Sir Alexander Fleming Building which uses Polychlorinated biphenyls (PCBs), ensuring our climate change levy bills are correctly assessed and paid and settling our 'carbon tax bills' under the Government's UK Emission Trading Scheme (ETS). This scheme caps the total level of greenhouse gas emissions, creating a carbon market with a carbon price signal to incentivise decarbonisation. We are allowed to buy and sell allowances within that scheme. While we have an advisor to do this for us, ensuring the money is available at the right time to trade at the right price to make savings falls to Lisa.

On the day we meet she had saved College £700,000 on our UK ETS allowance purchase that day against the budget for the year. She had done this by hitting the button at the right time to pay £3m while the trading price was good. To achieve this she'd had to make an urgent request to accounts. Thankfully, she has built rapport with those in accounts payable to respond to the urgency.

"There is no typical day," she tells me, although work is cyclical "when bills come in, month end, year end (July), carbon reporting and so on." Enquires she receives often come from students for their studies.

Then there's the collation of data for the Estates Management Record. That's the report led each year by David Traske, for the Higher Education Statistical Agency (HESA) on behalf of the Office for Students (OfS). "I liaise with various departments and suppliers to collect and compile the data for our water consumption, scope 3 procurement figures, DEC certificates and student travel data."

She says: "You have to be flexible and adaptable and go with the flow to make things work, and not take yourself too seriously. I've got really supportive colleagues, which helps."

What does she do when work is done? "I play an active role in my local church (I'm a Christian) and regularly leading bible studies to help people understand God's word." She adds: "I enjoy going hiking with a group of friends once a month, and also going to cèilidhs in the winter."

Next year 33 Estates colleagues will be marking long service milestones. In the first quarter alone we will be celebrating 10 of them. Here we talk to just three of those, and their routes taken into Imperial.



Back in 1992 **John Harrington** (left) had a serious motorbike accident, which took months of recovery. It wasn't just bad news for his health, it was also bad for his livelihood, he was a self-

employed shop-fitter and rebuilding his business wasn't going to be easy.

So when in 1993 when he saw a year-long contract on offer at St Mary's Hospital he jumped at the chance. That contract led to another, eventually finding himself part of Imperial as a multi-trades technician in Maintenance.

Thirty years on he says: "The challenges here suit my ability: the diversity, the complexity, the place always changing, I'm suited here."

One of the reasons he feels suited is his interest in physics, in a different life he would maybe have been a scientist or realised his boyhood dream to become an astronaut. Endlessly fascinated by all things to do with space, he recently had a holiday in the States, where he went on a NASA tour.

At St Mary's he is part of a small tight-knit crew, each a long server. As multi-trade John can use his

carpentry, electrical and plumbing skills in equal measure, providing job variety, and as he says, he enjoys making things the best he can for the end user.

Much of that involves enabling works and isolations, so that works go smoothly with least interruption, looking after the air handling units, preventative inspections and maintenance. He's on first-name terms with much of the equipment he services, giving them a nickname, they have after all worked together a long time.

One comment he makes, is of the noticeable 'softening of the atmosphere' in more recent years which he likes.

In a different office in the same building at St Mary's is Building Manager **Anna McDadd** (below). She also joined Imperial in 1993. Anna's background was in sports and leisure and she first started at the former sports centre that predates the Ethos building on the South Kensington Campus, where she became one of three duty managers working shifts. "There were 14 staff, a tight knit group, we're still in touch today."



She took sports centre and pool operator courses, and a College-sponsored professional qualification from the Institute of Sport and Recreational Management.

Plus

40 years **Guy Fairhurst**
Building Manager

30 years **Tina Pinto Gomes**
Cleaning Operative

10 years **Steven Hullock**
Assistant Building Manager



Ian Day
Maintenance Manager
25 years



Julie Neville
Building Information Manager
25 years



William Frame
Project Manager
20 years

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.

"It was a two year course on day release, the admin module and exam were tough," she says adding: "I'm still not good at admin."

In the noughties, prior to the current Building Operations structure when the new Flowers building was being completed, someone was needed to oversee the many moves by departments from other buildings to the new one. Her related experience put her in a good position and she was given the job.

In 2003 she became the Building Manager for Sir Alexander Fleming and Flowers buildings and over time more areas, plus given an assistant building manger to support her. "SAF was the jewel in the crown then." Later a colleague's retirement meant a shuffle round was needed. Anna admits she wasn't initially bowled over moving to the medical campuses. "I loved my job at South Kensington, but it did make sense. "Departments were moving and I already knew some of the faculty people and was familiar with and understood the type of research they were doing on the medical campuses." Now she is more than happy: "I like the people I work with, it's an excellent team, and I've pride in working for the College."



Kare Rai
Maintenance Technician,
15 years

"When I look back, I've always worked on the 'shop floor': in retail, in the leisure industry, now in a service industry, so customer service, which is why it makes me happy to deliver a good outcome for people." Away from delivering customer service Anna enjoys hobbies related to her leisure career, snorkelling in some of the best locations and reefs in the world, enjoying travelling to reach them.



Bill Baggott (above) started at Hammersmith campus in what was then the Royal Post Graduate Medical School as a general cage washer in the animal house of the Zoology Department. "I know my place," he jokes, as 35 years on he is still in a basement, in the Commonwealth building, arriving there via time in the Wolfson basement! There he was an unskilled handyman, having spent some time in the stores, but over time he has worked his way up to Maintenance Supervisor. To do so he attended college to gain a trade, learning plumbing.

"We're like a small family on this site, he says. "I like the people and I like the job."

There's a cuttings album in the department, which features a younger Bill in a clip from the local newspaper during a clear out during the early 1990s when the Hammersmith site was preparing for the loss of Crown Immunity – a protection status which was removed from the NHS in 1991.

"There have been lots of changes, but you just move with the times," he says.

Bill has had some health problems in the last year, so he has decided to take early retirement next April at 60. He's looking forward to indulging his hobby, sea-fishing, plans to move to Oxford nearer his daughter, and to get the dog he has always wanted. "I love animals" he says, "It's not fair to them though if you are out at work for long hours."

"It's a good time to go", he says, I feel I have achieved something in my time, and I've been happy."

YOU'RE HIRED!

Meet the apprentice-maker



When the Government introduced the Apprenticeship Levy in 2017 it brought about a sea-change in the way opportunities for career entry and progression are supported and funded in the UK.

The levy is a 0.5% charge on all employers with a payroll of more than £3m a year, and from which they can claw back funds for the benefit of their own staff.

At the time Ailish Harikae was working in an operational role in

HR, with some experience of running a small apprenticeship scheme as one aspect of her role.

The introduction of the levy required College to consider how it would be able to utilise apprenticeships given the huge payment it would be making.

A new Apprenticeships Manager role was created within Learning and Development, now People and Organisational Development (POD). Ailish moved into it,

combined with responsibility for co-ordinating the Technician Commitment, a related cross-College career progression initiative for technical staff.

Now People and Organisational Development Consultant (Apprenticeships and Work-Based Learning) Ailish is responsible for ensuring College is making the most of the funds available. She promotes the scheme, encouraging departments to recognise where an apprenticeship post might be appropriate when recruiting, oversees existing apprenticeship provision and supports departments with the development of new programmes. Courses undertaken must be from an accredited list of providers, so she works to identify the appropriate ones for College's and the apprentices needs. Key is ensuring positive outcomes for individual learners and College.

An apprenticeship combines hands-on experience with formal, off-the-job training and lasts for a minimum of twelve months or longer depending on the programme and the level. The learner must spend at least six hours a week on development, which might include attending lectures or workshops, practical training, shadowing and applying new skills in the workplace.

Apprenticeships aren't necessarily entry level roles and are available across a range of

to Angela and the Estates' department concerned.

Angela said: "The partnership I have with Ailish works brilliantly! She has provided much-needed resources such as laptops to help with college work and made contributions towards the Apprentices' expensive toolkits. Over the last few years, we have spent over £80k from the Apprenticeship Levy to support existing staff to achieve qualifications ranging from Level 3 Leadership and Supervision up to a Master's in Risk and Safety Leadership. Without these additional resources, it would not have been possible to support so many staff through the Estates Sponsorship Scheme.

"I also work alongside Ailish and with Rak Patel, Head of Maintenance, as a member of the Steering Group for the Technician Commitment. I think we make a great team."

occupations and at a variety of levels, right through to Masters, allowing staff to gain new skills and qualifications on the job.

There are now around a hundred established staff across College who have been through the apprenticeship route to build new skills and knowledge, with around 30 currently on contracts.

In Estates we currently have two, in Maintenance, Kai Atkins-Williams and Panashe Mwenye.

As Maintenance apprentices, they fit into the other role that Ailish performs, the Coordinator for Technician

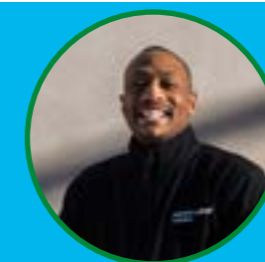
Commitment. This is a programme of activity which seeks to ensure greater visibility, recognition, career development and sustainability of technical skills led by a steering group which meets once a term and regularly evaluates activity. "There are 24 different actions and I work collaboratively with technical colleagues to take activity forward and report on progress," says Ailish.

As part of the commitment Ailish, along with colleagues in POD and technical managers, deliver a programme of events including training sessions, tours, conference and annual festival. There are also the Technician's Forums – the

networking group for Technicians from all areas of the College. Maintenance Manager Ian Day gave a presentation recently at one, showcasing Estates teams are part of that 'unsung' community.

Ailish said: "Estates is an area of College with a long tradition of apprenticeships and a strong culture of learning, so it's always a total pleasure to work with you. I have enjoyed learning about the vital work of Estates through the Technician Commitment initiative and from colleagues on apprenticeship programmes."

A dash of Panashe



Apprentice Panashe is involved with a joint project with the Science Museum to inspire young people aged 11- 16 to consider technical careers across a range of industries by highlighting the huge variety of technical roles that exist. 'Technicians', at the David Sainsbury Gallery, aims to inspire by giving opportunity to see and hear from people doing the jobs. "Back in 2019 Estates Maintenance Technicians met with the Science Museum curatorial team when they visited Imperial as part of their early research/scoping for the Gallery contributing to shaping the vision for the gallery", says Ailish.

Panashe has been developing an interactive game which he will be presenting in workshops sometime next year. His supervisors and managers in Estates have been helping him develop his own skills in both carpentry and plumbing to build his set, 'Question Pong'. Panashe is really excited at the opportunity the project brings for him, and the opportunity his involvement could be creating for others. "Uni isn't for everyone", he says. "I learn visually, and this style of learning through apprenticeship has changed my life." He comments, "Ailish has been fantastic. She has a big role whose impact changes a lot for people."

Interested in an apprenticeship to further your career? The next briefing will be held on 8 February 2023. Details on [the website](#).

Learning and development



Please visit the Estates [Learning and Development One-Stop Shop](#) for further information about these and other courses available during 2023. You'll also find details of how to apply for Estates sponsorship for your professional studies. Sponsorship applications close at the end of March.

● **Behavioural Safety and Leadership Training (In-person)** 27 February 09:30, 28 February 13:30

● **Asbestos Awareness (Online)** 8 February & 20 April 09:30 - 11:00

● **PASMA Mobile Access Tower (In person)** March - TBC

● **SharePoint Essentials and Time Management Tools (Online)** January- March - TBC

● **Laboratory Animal Allergens for Maintenance and Contractors (eLearning)** February - March - TBC

● **Estates Forum (Online)** 15 March, 11:30-13:00
15 June, 13:00 – 14:30
14 September, 13:00-14:30
(In person) 7 December, 15:00 - 17:00

Cover Story: **GROUNDBREAKERS**



It may be a wasteland now, but this site represents the future of Imperial. It will one day become the future White City Campus South development, delivering the College's commitment to a cleaner, greener agenda. Photographed on it are two of the people responsible for enabling that vision, Fergal Burke and Roy Dickerson.

Head of Masterplanning, Fergal Burke, and Head of Strategic Infrastructure, Roy Dickerson, have led the project from inception to this point, following a lengthy planning and design process. "We've been looking at getting the site ready for construction over the last six months," says Fergal. But it is a much longer story than that.

Imperial's part in it began in 2013 when it bought the site, variously used by light industry in the last century and before that farmland.

Outline planning permission was obtained in March 2021, allowing

the White City Campus South to go ahead.

The approach to the development of the south campus masterplan is to install the site wide infrastructure now, enabling future buildings to be constructed on a serviced plot basis, rather than approaching each building piecemeal.

Fergal explains: "The approach on the north campus site was to construct buildings on a site-by-site basis with each individual project taking possession of 'un-serviced plots'. This meant undertaking demolition, decontamination and groundworks including building specific utilities, and a small bit of landscaping around the perimeter of the building."

He adds: "Due to the constrained nature of the site, this approach has had its challenges, resulting in conflicts between people and construction traffic. This has impacted on the user experience

and deprived the northern masterplan of its key public space, the Central Square, which has remained undeveloped for many years due to its use as a construction compound."

Under the concept adopted for the south campus infrastructure services, Roy Dickerson explained that a network of infrastructure services will be installed under the project and terminated at the plot boundaries for future connection to buildings. He said: "These include water and drainage, together with ducts for the future installation of ICT cabling and electricity supply cabling. These cabled services can be installed in the future with little or no disturbance to the finished landscape or public areas, or disruption to the normal campus operations."

To provide resilience, connections will be made to two separate Thames Water services in Wood Lane and brought onto site

through separate troughs formed in the new bridge across the Central Line. Except for electricity supplies, the bridge forms the primary route for utility services crossing onto the campus. These include the Scale Space gas supply, current and future ICT services, together with special provision for other services if required. Electricity supplies for new buildings will utilise a network of buried ducts to be installed under the project and connected back to the primary substation under the Westway.

Key to the success of the masterplan and the project is a new vehicular and pedestrian access bridge which will replace the existing Depot Road bridge. Negotiations with London Underground (LUL) for the access rights over the Central Line cutting has taken some three years, just to illustrate the complexities of the many interests involved.

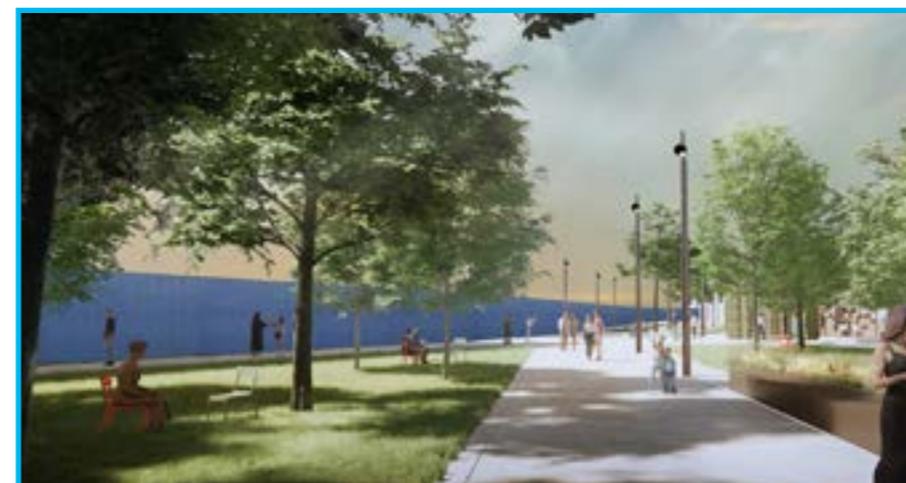
"The project will set the tone for future development and allow the College to bring forward development plots as and when opportunities arise in the future.

FERGAL AND ROY (LEFT) ON SITE. COMPUTER IMPRESSIONS OF TOP RIGHT: VIEW LOOKING AT THE NEW ACCESS BRIDGE FROM WOOD LANE, AND BELOW: VIEW LOOKING NORTH THROUGH THE CENTRAL OPEN SPACE.



Around 70% of the sites public realm areas will be installed as part of the project, which we hope will create a genuine place which are our community, partners and surrounding neighbours will come and use and enjoy."

Fergal explains: "The project went out to tender in July and returns were received in October. We are currently in a period of review and dialogue with various contractors where we hope to be able to provide a clear recommendation to the College on next steps by the end of the year. We are hoping to start on site in early 2023 and the construction programme will take us into early 2025."



Sustainability

What is also new for this development is Imperial's commitment to sustainability, with a carbon management plan with expert input from our own community of specialists to ensure our biodiversity agenda, carbon objectives and ensuring climate change resilience has been built into the infrastructure design and specification.

Examples include:

- Optimising the design to reduce the use of materials such as steel and concrete
- The use of cement replacement products such as GGBS – the use of which was pioneered by alumnus and benefactor Sir Michael Uren (See p 15)
- Public realm trees that have high carbon capture
- Landscaping for water run-off
- Provision for an all-electric future ending the need for fossil fuel back-ups and alternatives
- Promoting an active travel agenda prioritising walking and cycling with limited car use.



It's a cool job

In the middle of the winter the extreme heat of the summer of '22 can seem a distant memory.

The hottest day, 19 July, was a milestone in our climate history, with 40°C being recorded for the first time in the UK and 35°C being recorded for the first time in Scotland.

Even more easily forgotten is that daily minimum temperatures were also at levels above those normally considered record-breaking summer weather – 28.5°C recorded on 19 July.

This prolonged spell of unremittingly high and sometimes excessive temperatures put a strain on all infrastructure and services. However, thanks to systems, technology, foresight and team effort, effects on Imperial were minimised.

Up on the many roofs the vital chillers were feeling the strain of continued load above their normal operational capacity.

It is easy to think of chillers just as air conditioning systems to keep us comfortable in offices and study areas, but of course, they are used in laboratories, plant growth rooms, and cold rooms, 'environmental chambers' simulating conditions around the world, hence their vital importance to research projects.

Responsible for those chillers is the company Toshiba Carrier, who translates in person to Dave Tupman, who has worked on our contract for 15 years.

He looks after 109 chillers across the campuses, service, breakdown and repairs and pre-emptive maintenance.

Most of the chillers are controlled through the College TREND BMS system, which sets the timings and the temperatures, and will log a

fault, which reports through to the Customer Services Centre, prompting a call-out to Maintenance. All well and good, but that is a responsive system. What Dave has is a 5G data link to most critical based chillers, allowing him to live remote to the systems and view live data, detecting stressors before things go wrong.

This was the case in the heatwave. Our chillers are generally capable of working with a maximum temperature of 35°C, which would normally be sufficient for temperatures in this country. Realising temperatures on the roof were soaring he was able to notify the Estates Maintenance team who swung into action rigging up water hoses to keep the system's evaporating condenser cool (right).



Dave explains: "It was a temporary solution, as using water can cause scale to quickly build up on the chillers' heat exchangers, which could in turn cause them to become inefficient and fail." However, it worked, and saved vital research work. In the SAF building for example, saving Department of Life Sciences aphids research, wheat and barley rust disease work and Bozkurt plant pathogen work.

Air conditioning was invented in 1902, by Willis Carrier (of the company name) and Dave has worked in the industry since leaving school. While he has seen advancement "over the years", including newer natural refrigerants, "a lot is still mechanical in terms of main



● DAVE TUPMAN, SENIOR TECHNICIAN

components, but controls have changed to computer software. In the last five years or so this has been more rapid through digital technology."

Dave was a bit reluctant to come and work at Imperial initially, because he had enjoyed being a

mobile technician, called to attend many locations. But he found it not too dissimilar, covering our many campuses, including Silwood Park, and "back then, Wye." Now he says: "I feel I work for both Carrier and Imperial. I get on well with the

maintenance and building managers and their teams and enjoy working with everyone here." Throughout his time Dave has been on call round the clock, more recently with the support of another engineer, John McNab and now also Luke McNab, John's son.

So what happens if the summer of '23 brings another heatwave? Dave explains: "Our chillers are perfectly adequate for the usual temperatures and hotter weather. The cost of providing chillers suitable for temperatures above 35°C is considerable, and they increase greatly in physical size. There is a balance between providing for and even being able to house what would be needed for, at the moment, the rare occasion."

In at the deep end



Minor Works Project Manager Sally Karrar (photo left) joined us in the spring. She was immediately set to work on the refurbishment of one of College's jewels, Putney Boat House.

Works were completed in November, crowned with a newly restored gold-leafed Imperial crest, and crowned for Sally personally by successfully completing her probation period.

The Imperial College Boathouse is located on the Putney Embankment overlooking the River Thames. It has been home to the successful Imperial College Boat since 1938.

Just eight students are invited to live there as elite athletes based on their rowing ability allowing them to access all they need to maintain their ability alongside their studies.

However for the last few years that hadn't been possible. The roof was leaking and as a result the accommodation wasn't habitable.

Work on site began in June. The roofs – there are both a high level and low level one – were in need of repair. A new Triflex overlay system was used. Triflex is a durable roof waterproofing solution which is applied as a cold liquid and is fast curing.

But before this could be done there was the issue of telecoms masts to contend with in the faux chimneys

on the roof. Said Sally: "Both Vodafone and O2 have a licence with Imperial to install their telecommunications masts on the roof. This added a degree of complexity to the project, in managing and incorporating third party works. As we had to instruct them to remove their mast then come back to reinstate it."

Guttering and downpipes were removed and replaced, the render to the front chimney renewed, brickwork, coping stones removed and re-bedded on new damp-proofing courses as part of the project.

To improve safety handrails were installed along the roof edge.

Once that was all done, then redecoration works were carried out. Sally commented: "It feels good to see a project all the way through to completion."

Sally has now been assigned further projects, taking her through to next spring, and her first year anniversary with us.

These include some of our high profile Grade 2 listed heritage buildings. The buildings in question are 52 Prince's Gate set to receive around £1m in refurbishment of office space occupied by the Business School and roof works to 14 and 15 Prince's Gardens. Sally said: "There's going to be lots of scaffold, roof works, rendering and painting. They are great projects to work on."

Joining the dialogue about CO2

'Absence Echoed', a new artwork by David Rickard, now stands in the lobby of the Sir Michael Uren building at White City Campus.

The artist was commissioned by College to realise an artwork that bears testament to the life and work of benefactor Sir Michael Uren and the building in which it stands.

The former alumni, who died in 2019 at the age of 95, pioneered the use of ground granulated blast furnace slag (GGBS), an industrial waste product, to manufacture a new kind of cement with 90% less carbon emissions than traditional methods. This cement has been used within the cladding fins of the Sir Michael Uren Hub.

Creating dialogue

What the artist has done is create two pieces, which stand in dialogue with each other, exploring the concept of the reduction of CO2 emissions.

One is a single cladding 'fin' as on the front of the building, cut in half and reflected within a mirror polished stainless steel base to find its full height. The other is a cluster of industrial gas cylinders that embody the relative CO2 savings due to the hidden ingredient of GGBS. This includes cylinders embedded and halved within the stainless steel base. Combining concrete, gas cylinders and polished stainless steel, the sculptures reflect the physical elements, while making visible their typically hidden qualities.

David Rickard said: "Absence in this case is a positive term, as it is the absence of CO2, and echoed refers to the reflections in the stainless steel and dialogue between the sculptures."

"The half height fins reach their full height in the stainless steel, and the reflection is a physical representation for the amount of CO2 saved by the GGBS process."

"The cylinders bring the 'back of house' into the front of house and into the conversation and echo the fin's CO2 savings."

The volume of CO2 saved by using GGBS within the single precast concrete cladding fin has been calculated as 78.2kg CO2e, based on the volume of GGBS and its CO2 footprint compared to using standard cement.

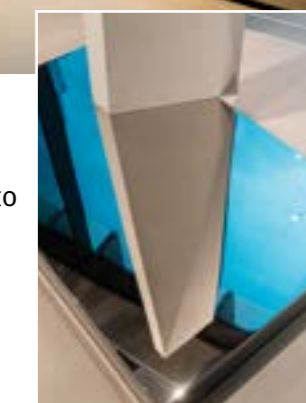
Calculated for the 1,300 concrete fins covering the Uren Hub facade this equates to a saving of approximately 100 tonnes of CO2.

Concrete for the sculpture was produced by Loveld, Belgium and fabrication of the sculptures was by Benson Sedgwick in the UK. The artwork was funded by The Michael Uren Foundation. Estates Capital Projects Programme Manager Bruna Santandrea has overseen the installation works.

Sir Michael was one of the UK's most generous philanthropists, and stands as the biggest benefactor in Imperial's



THE PHOTOS SHOW BOTH PIECES AND THEIR RELATIONSHIP, WITH CLOSE-UPS OF THEIR REFLECTIONS



history, donating £40m to the cost of the building that bears his name.

The artist

David Rickard is a New Zealand born artist who lives and works in London. Following a degree in architecture he went on to study art at Accademia di Brera in Milan and Central Saint Martins in London. Through research and experimentation his works attempt to understand how we arrived at our current perception of the physical world and how far our perception is from what we call reality.

Holidays, celebrations, diversity days and events

● College re-opens	3 January	● Time to Talk Day	3 February
● Lunar New Year	22 January	● Elimination of Racial Discrimination Day	21 March
● Holocaust Commemoration Day	27 January	● World Water Day	22 March
● World Hijab Day	1 February	● Ramandan	22 March

Action on Values

Just how do you embed shared values into an organisation? So far around 140 Estates staff have attended 'Values Roadshows' to help answer that question, in this case for Imperial.

Our five values, Respect, Integrity, Innovation, Collaboration and Excellence, were the starting point for conversations within the small groups assembled at one of the nine roadshows held during the last five months. They've been run by Heads of Departments who would like to thank all those who have attended. Further dates will be made available in the new year so that no-one will miss out on a chance to have their say.

"Interaction has been fantastic, gathering lots of feedback concerning the elements we are all passionate about", said John Field, Head of Fire and Safety, one of the main organisers of the sessions.

The feedback from all the sessions has been collated, and actions have been produced which will rest with the Senior Leadership Team to implement.

Colleagues who attended the first sessions have been told what actions have resulted from their discussions, and those who attended later will be given their feedback soon. So as not to influence



future sessions, this is not yet being shared in detail. However, a short summary of some of the topics that arose was given during the September Estates Forum by Nic Dent, Head of Soft Services, another of the main organisers. He said: "The values are simple, clearly defined and make sense; I think that is why they resonated with everyone in the two sessions I attended."

At the same time the Senior Leadership Team, supported by David Traske, have also been considering our results from College Staff Survey held earlier in the year.

Key areas where we could be doing better as a department have been focused on, and again action points have also been drawn up. These are being aligned as much as possible to what you have said are your main concerns during the roadshows. Details of these will also be made available soon.

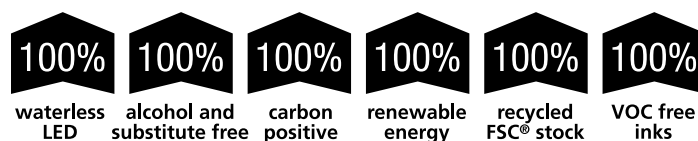
Key though, is that the desire and will to keep values live and part of our everyday working lives will be very much a part of the action planning.

Sustainability Statement

This magazine has been produced using methods which support our values on sustainability. It is printed on 100% FSC certified recycled paper, using 100% waterless offset printing which is 100% alcohol / VOC free. It has been produced in a carbon positive factory, using 100% renewable energy, with zero waste to landfill.

Imperial College London Estates Operations is committed to the environment.

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