

Imperial College
London

AN INNOVATION COMMUNITY

WHITE CITY
CAMPUS

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A JOURNEY OF OPPORTUNITY

There are rare moments in history where new places are created that change the way things are done in the world. In 1851, Prince Albert's Great Exhibition of the Works of Industry of All Nations brought the world to London and led to the purchase of land in South Kensington that is now the great centre of art, music and science we know today. Imperial College London thrives alongside neighbours like the Royal College of Music, Royal College of Art, the V&A, Natural History and Science Museums.

Today we find ourselves with another rare opportunity for place-making. The story of White City in West London is defined

by constant making and re-making. We are creating an integrated collaborative campus, with embedded corporate, academic and community partners. We are creating a new paradigm to bring the disciplines and sectors together by making places for them to coexist more closely than ever before.

Instead of creating an 'industrial park' outside our campus, or a 'community centre' to work with the public, we are, in White City, intentionally opening up our campus to blend these groups from the start. Intermingling in buildings, sharing labs, collaborating on research and educating the new generation of researchers.

We are now in a period of rapid change that, on the one hand, is bringing exciting new capabilities to improve human health and society while, on the

other hand is creating challenges for the population. We must pursue, with all of our talent, energy and focus, the opportunities to turn scientific discovery into benefit for society.

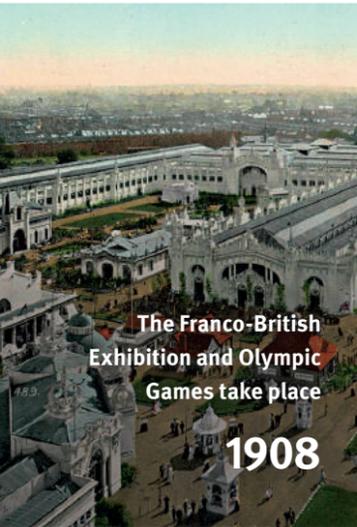
Imperial College London, White City Campus is the place to lead this.



Professor Alice P. Gast
President, Imperial College London

The White City Opportunity Area in West London will encompass new homes, green spaces, local facilities and research hubs within and beyond Imperial's Campus. This indicative visualisation (subject to planning approval) shows the projected development of the area for the next 25 years.

The history of White City is a story of change. Over the past 150 years, it has evolved from quiet countryside to the site of great international exhibitions, a place for forward-thinking social housing, the location of a global broadcasting powerhouse and the home of a world famous football club. Today White City is becoming a centre for research, innovation, culture, commerce, retail and new homes for a diverse community.



The Franco-British Exhibition and Olympic Games take place
1908

Hammersmith Hospital opens and construction begins on the Wormholt and Cleverly Estate

1912



Construction of the White City Estate

1935-53



BBC Television Centre opens

1960

Imperial first purchases land in White City

2009



Imperial purchases additional land for the White City Campus south of the Westway (A40)

2013



The Translation & Innovation Hub (I-HUB) opens at the White City Campus

2016



The Molecular Sciences Research Hub opens at the White City Campus

2018



Opening of the School of Public Health at the White City Campus

2022

1917

Queens Park Rangers Football Club moves to Loftus Road Stadium

1947

White City Station opens on the Central line

2008

Westfield London opens

2012

Imperial opens the first building at the White City Campus – accommodation for postgraduate students



2015

Transformation of Television Centre begins

2017

Opening of The Invention Rooms



2019

Completion of Michael Uren Biomedical Engineering Research Hub
Delivery of 100,000 sq ft of meanwhile office and laboratory space at Scale Space on the south site of the White City Campus



WHITE CITY TIMELINE



A NEW DESTINATION

White City is one of the most exciting, dynamic and rapidly changing parts of London.

White City is now quickly establishing itself as a pioneering quarter for arts, culture, innovation, science and learning – with resident organisations including the revamped BBC Media Village, the Royal College of Art and Imperial College London.

Imperial's White City Campus is a platform for innovation and entrepreneurship at the heart of a vibrant area to live, work and play. We are driving this evolution with a £2 billion investment in a new 23-acre

integrated collaborative campus, at the heart of the White City Opportunity Area.

Multidisciplinary research facilities are opening at the northern section of our site, alongside space for businesses, accommodation for postgraduate students and a residential building.

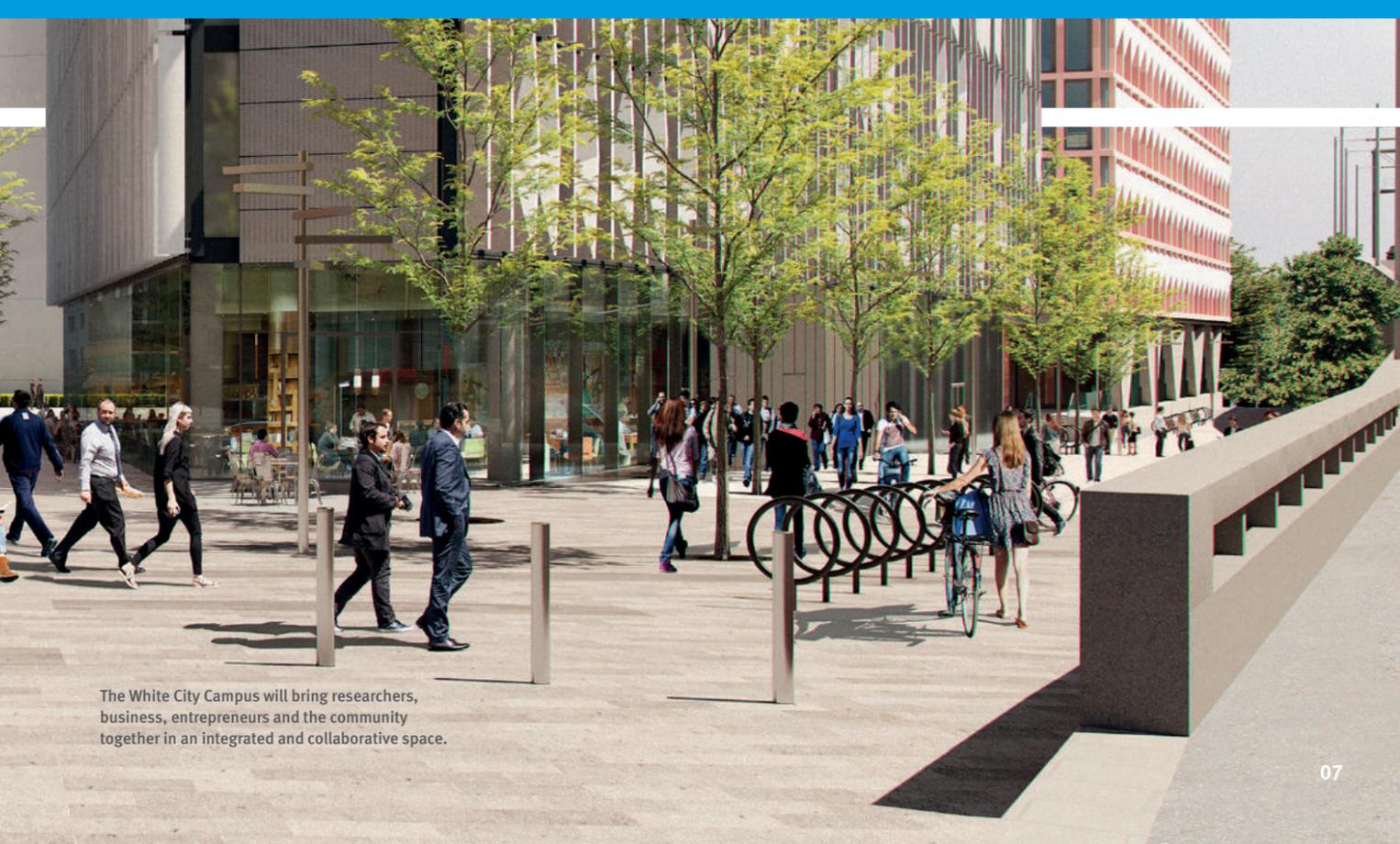
Meanwhile, plans for the southern part of the site, which will include more academic hubs and facilities for commercial and research partners, are underway.

OUTWARD FACING

Imperial is consistently rated as the UK's most international university and we aim to reflect and build upon this outward facing ethos at our White City

Campus – by attracting staff, students and academic and industrial partners from all corners of the world.

We're also committed to making a positive impact in White City by working in partnership with the local community to create new opportunities, unleash local talent and make a difference in areas such as education, employment, enterprise and health. Two important cornerstones of this effort are The Invention Rooms (see page 18) and the School of Public Health (page 10). Both are exciting and important ways we will work with the community. Our impact here will not only be felt locally; if we do this right, it can be a model for others.



The White City Campus will bring researchers, business, entrepreneurs and the community together in an integrated and collaborative space.

A THRIVING REGENERATION

10
HECTARES

£2 BILLION
INVESTMENT IN OUR
WHITE CITY CAMPUS

£85 MILLION
RAISED BY INCUBATOR
COMPANIES SINCE 2016

1,300
SCIENTISTS, CLINICIANS
AND ENGINEERS ON CAMPUS
BY THE END OF 2019

The White City Campus is less than three miles from our existing South Kensington Campus and just 500m from our campus at Hammersmith Hospital. With three underground stations, White City has excellent transport links to the rest of London and beyond. It is:

Around
13 minutes
from the West End by tube

Around
22 minutes
from the City of London by tube

2 miles
from Old Oak Common and
potential future connections to
HS2 and Heathrow Airport



Scientific change is accelerating. We cannot predict where discoveries over the next 10, 20 or 30 years will take us. Pioneering fields like synthetic biology and data science, which have unravelled the human genome and made micro-payments part of everyday life, require a truly joined-up approach.

A BOLD ERA OF DISCOVERY

“A lot of the problems we deal with in public health are multifaceted, and the only way to understand them and solve them is by having people from entirely different disciplines being close together.”

Professor Majid Ezzati
Chair in Global Environmental Health,
School of Public Health

At White City, we are creating a space to expand our work and cultivate new collaborations with business and academia, as well as the local community and other partners.

THE MOLECULAR SCIENCES RESEARCH HUB

Providing a new research home for the Department of Chemistry, the Molecular Sciences Research Hub is a state-of-the-art facility for chemical and molecular sciences. Bringing together up to 800 scientists, clinicians, engineers and commercial partners to collaborate under one roof in a way that they have never been able to before, advancing research in areas such as clean energy, chemical biology and personal healthcare.

THE MICHAEL UREN BIOMEDICAL ENGINEERING RESEARCH HUB

Work at the Michael Uren Biomedical Engineering Research Hub will combine the latest medical research and engineering to improve the treatment and diagnosis of diverse medical

conditions, from developing new ways to detect cancer, to musculoskeletal technology and even bionic limbs. Made possible thanks to an unprecedented £40 million gift from Sir Michael Uren OBE and his foundation, over 500 engineers, clinicians and scientists will together develop new and affordable medical technologies.

THE SCHOOL OF PUBLIC HEALTH

We are in a time of exceptional opportunity for transforming public health and our School of Public Health researchers work in close collaboration with colleagues across disciplines and around the world. The School of Public Health's new home at White City (near to our existing campus at Hammersmith Hospital) will use the power of data and technology to deepen our understanding of disease and create low-cost, scalable health solutions for populations most in need. It will also apply global research to our local community and learn from that community to shape the future of public health around the world.

A green fuel economy

Professor James Durrant FRS from the Department of Chemistry, leads Imperial's Artificial Leaf initiative. Durrant and his team study the behaviour of various nanostructured materials and seek to enhance their catalytic properties to split water to make green fuel. Another group at Imperial has exploited the ability of photosynthesising green algae to build a low-cost bioreactor that produces hydrogen fuel on demand.



Collaborating for the future

The Sir Henry Royce Institute will bring together world leading academics from across the UK to work closely with industry on the commercialisation of fundamental materials research. The Centre will focus on Atoms 2 Devices (A2D) research in functional materials and devices. Functional devices impact across all technology sectors and underpin future developments in key areas such as energy, communications and healthcare.

Risk aware

Ground-breaking research from the School of Public Health last year revealed that traffic pollution may be putting the health of unborn babies at risk. Researchers Dr Mireille Toledano and Dr Rachel Smith showed high levels of air pollutants from traffic are linked to low birth weight.

A NETWORK OF INNOVATORS

Imperial has a long and successful history of partnership and collaboration with industry. We work with more than 500 corporate partners and at White City we can bring academia, business and the community together on an unprecedented scale.

We're creating a network of innovation spaces for businesses of all sizes – major corporations, high-tech and high-growth companies, SMEs, startups, spinouts and entrepreneurs – to work alongside Imperial at every stage of their development and growth.

THE TRANSLATION & INNOVATION HUB (I-HUB)

The I-Hub is a new home for innovation and collaboration. Led by Imperial College ThinkSpace, these facilities are often linked to specific research and development partnerships so that collaboration with Imperial is embedded from the start.

THE IMPERIAL WHITE CITY INCUBATOR

The White City Incubator is a hub for innovation and entrepreneurship, providing office and lab space and support for early stage deep science companies. The White City Innovators

Programme is a short accelerator programme for Imperial-based companies and the local community. The White City Incubator has supported hundreds of entrepreneurs and future business leaders since opening in late 2016.

PARTNERSHIP FOR GROWTH AND INNOVATION

Imperial and the London Borough of Hammersmith and Fulham launched a new partnership to support the development of a world class innovation ecosystem in White City through close collaboration between academics, all types of businesses, entrepreneurs and the local community. By fusing the capabilities of Imperial as a leading research university together with the skills, talents and expertise of the community in Hammersmith and Fulham we can support local enterprise and continue to attract dynamic companies to the area.

Professor Mimi Hii is the director of the Centre for Rapid Online Analysis of Reactions at Imperial, the UK's first Dial-a-Molecule Grand Challenge Institute. Based at the Molecular Sciences Research Hub, the Centre will bring together academic and industrial partners to develop new methodologies to enable scientists to make molecules more quickly and efficiently.



Lifecradle

Malav Sanghavi is the founder of LifeCradle, a low-cost neonatal incubator which he developed as an Imperial student at the Advanced Hackspace. The incubator is 90% cheaper to produce than current models and provides the basic functions necessary for a child's survival in their first days of life.



Autolus is a leader in cutting-edge T-cell therapies for the treatment of cancer. Utilising advanced cell programming and manufacturing technologies, they have established a development-stage pipeline of products for the treatment of haematological malignancies and solid tumours. Since its inception, the company has systematically added the capabilities needed to successfully manufacture, develop and commercialise T-cell therapies.

A NETWORK OF INNOVATORS

SCALE SPACE

Scale Space is the new innovation space for London, bringing together the best research, talent and business-building expertise. For businesses that want to stay ahead of the curve, innovation and digital reinvention is critical. But it can't happen in silos. Today's companies need to break away from the traditional concept of separate departments and position themselves within a network of ideas, expertise and experience. Working alongside Blenheim Chalcot, the UK's leading digital venture builder, businesses will have access to the support they need to turn innovation into growth.

IMPERIAL COLLEGE ADVANCED HACKSPACE

The Hackspace is a unique network of workshops, labs and co-location spaces housing prototyping technologies, bespoke and commercial in one of the largest such facilities of its kind in the world. In these creative facilities, Imperial staff, students, alumni and commercial partners from different disciplines work together to rapidly convert research ideas into breakthrough prototype products and solutions.

“This ambitious project will help cement London's position as Europe's tech capital and is another vote of confidence in our world leading digital economy.”

Matt Hancock MP

Secretary of State for Health and Social Care, comments on plans for Scale Space



The Hackspace is a cutting-edge workshop facility for staff, students and partners to develop new ideas and prototypes.

“We're determined to build a local economy that works for all. Working with Imperial, we're putting all the factors in place to make Hammersmith and Fulham the best place to start and grow a business.”

Councillor Stephen Cowan
Leader of the London Borough of Hammersmith and Fulham



Aborea's team developed the world's first 'BioSolar Leaf' cultivation system which harnesses natural photosynthesis. It grows microscopic plants to produce healthy food ingredients while also generating breathable oxygen and sequestering high amounts of carbon dioxide. Their goal is producing clean and healthy food while promoting the earth's natural regulatory carbon-cycles on a massive scale.

Mina Therapeutics is pioneering novel treatments harnessing gene activation mechanisms through small activating RNA (saRNA). saRNAs provide a new way of upregulating a cell's messenger RNA (mRNA) and protein production. saRNA therapeutics hold promise for many conditions and diseases that are untreatable with conventional medicines.

The **Incubator** is home to RebelBio, the world's first life sciences accelerator. RebelBio is committed to the funding and development of startups looking to change the world through the use of biology as a technology. The current cohort includes AlgiKnit (biotextiles for a sustainable future), VivoKey Technologies (next generation blockchain enabled cryptobionics) and Biomimetic Solutions (developing scaffolds, bandages and nano-materials from 3D cell culture to produce organs and functional human tissue growth *in vitro*).

A COMMUNITY IN ACTION



Imperial staff and students brought science to life with games and demonstrations at the W12 community festival.

We're committed to making a positive impact in White City by working in partnership with our neighbours to create new opportunities, unleash local talent and make a difference in areas such as education, employment, enterprise and health.

Our vision is to combine the skills, talent and insights of local residents, businesses and organisations with the expertise of our students, staff, partners and friends. We plan to be a long-term partner in the community that brings people together to find solutions to both local and global challenges.

We're building a campus that is inclusive and engaging. Our programme of regular events, projects and pop-ups at neighbourhood festivals and fun days help to share the wonder of science and technology with the local community through creative, hands-on activities.

SUPPORTING CHANGE

We're working to support local people develop their professional and leadership skills with programmes like Agents for Change, a collaborative initiative aimed at boosting the confidence and ambition of women living in the local area and laying the foundation for a new women's leadership network.



"Imperial has an opportunity to bring something new and empowering to a diverse and enterprising community, of which we are proud to now be an integral part."

Professor Maggie Dallman
Associate Provost (Academic Partnerships) Imperial College London

The Makerspace is open to people of all ages and backgrounds from the White City community.



What the Tech?

What the Tech? is a digital literacy programme founded by Imperial students, which invites elderly White City residents to get help with their computers and gadgets. At the weekly sessions elderly members of the White City community can bring along their electronic devices – such as smartphones, tablets and laptops – to get help and support from Imperial's student volunteers. Students help with a range of different skills, from how to send photos and create videos, to how to download apps, as well as advising residents about how to be safe online.

A COMMUNITY IN ACTION

Local school students showcase their work as part of the Maker Challenge Grand Final during Enterprise Week 2018.

NURTURING CREATIVITY

The Invention Rooms is our dedicated space for innovation and the community in White City. Under one roof, the College's inventors and entrepreneurs make use of specialist prototyping equipment, while local people of all ages and backgrounds can build things, learn coding, develop digital skills and turn their ideas into working prototypes using workshops, design studios and interaction spaces. 'Making' programmes held at the building will challenge young people to channel their creativity into ambitious projects, and encourage the next generation of scientists and inventors in White City.

Reach Out Makerspace

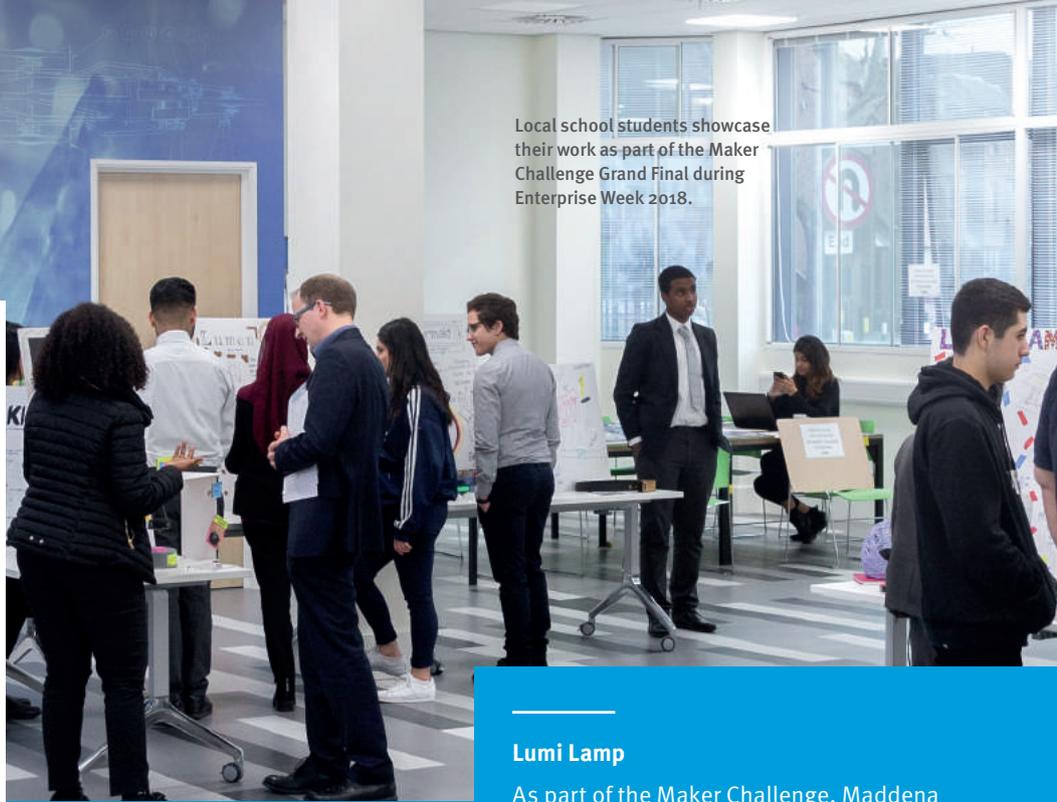
The Makerspace is a specially designed workshop and design studio for young people from the local community to get hands-on experience of prototype development – using 3D printers, laser cutters, and wood and metalwork machinery, as well as equipment for craft and textiles. It is here that Maker Challenge programmes give young people the opportunity to make anything from wearable technology to household gadgets.

Imperial College Advanced Hackspace

The Hackspace is a unique one-stop workshop for staff, students and alumni to access specialist prototyping and manufacturing equipment, from robotics and digital technology, to synthetic biology and molecular fabrication.

Interaction Zone

A warm and welcoming venue for public events, where local people and College partners can connect with science and Imperial's research.



Lumi Lamp

As part of the Maker Challenge, Maddena Hadafmand from Phoenix Academy designed the Lumi Lamp, a nightlight which could monitor breathing and movement to sense when a person falls asleep, and automatically switch off when a state of deep sleep has been achieved. The 12-week programme is open to 14-18 year-olds from schools in the White City area and runs throughout the year, with programmes during each school term and in the summer holidays.



Smart Baby Buggy

A local resident's idea for a smart buggy to help visually-impaired people has been made a reality by a team of student engineers. Ramona Williams from Fulham shared her idea with Imperial's community team, who pitched it to the College's Department of Bioengineering as a student project. The students' design uses sensors that can identify hazards and communicate them to the user through vibration motors in the buggy's handlebars.



imperial.ac.uk/white-city-campus

GET IN TOUCH

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