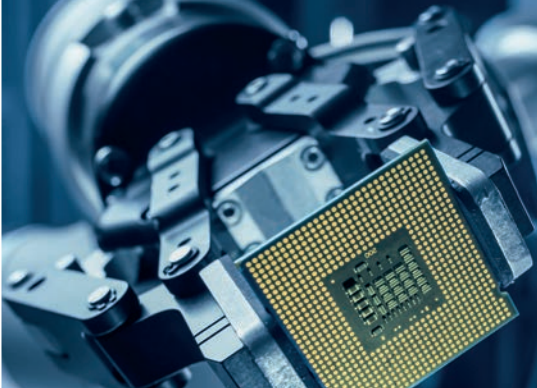
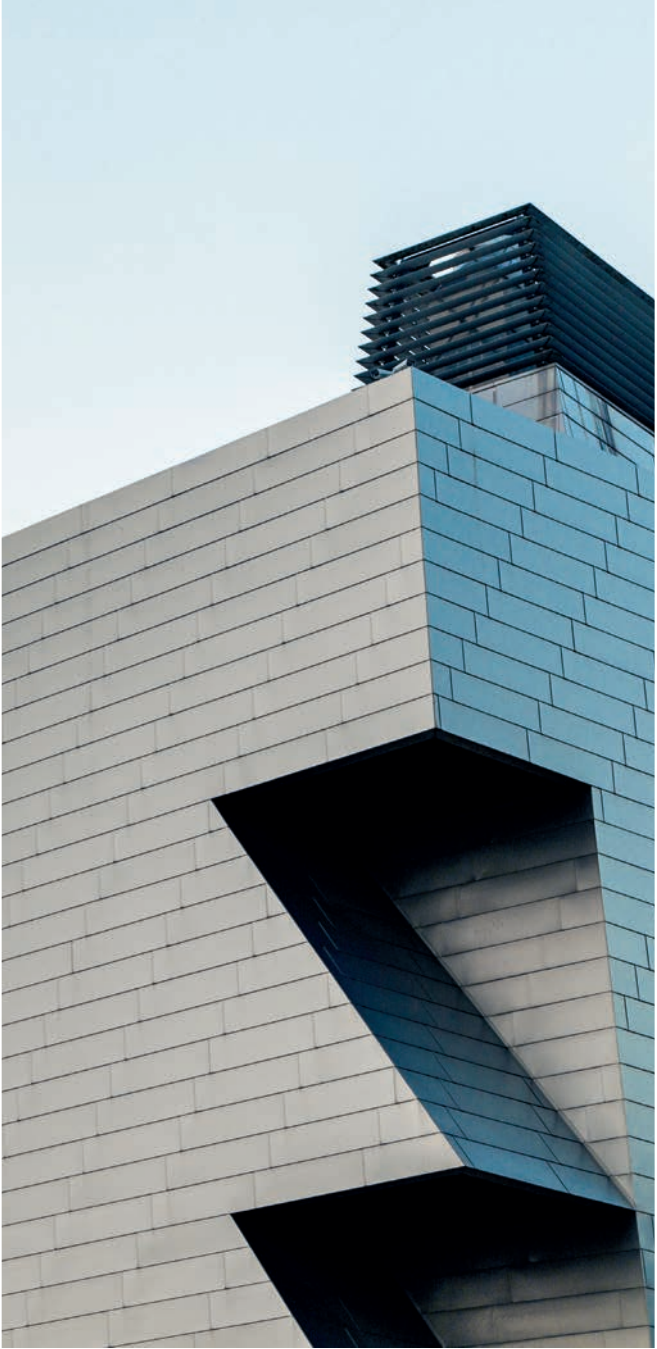


UNIVERSITY OF  
CAMBRIDGE



Building life sciences and healthcare partnerships

**Together  
we can change  
lives**





The UK is home to one of the strongest health and life sciences industries in the world, generating more than £88 billion turnover a year and developing life-changing treatments and diagnostics.

**As the life sciences capital of the UK, Cambridge is at the heart of this success. In one place, we have one of the world's top universities for life sciences, some of the world's most prestigious research institutes, three of the world's leading hospital trusts, 14 global healthcare companies, a dynamic cluster of science parks, biotech start-ups and University spin-outs – not to mention the extraordinary pool of talented researchers, clinicians and healthcare professionals who live and work in and around the City.**

A key ingredient of Cambridge's achievements in the life sciences is having the right people in the right place at the right time. But there is also something distinctive about Cambridge. We believe that it stems in part from the University's philosophy of recruiting the very best minds and giving them the freedom to follow their intellectual curiosity. Cambridge actively encourages staff and students to seize opportunities, to start new ventures and to be entrepreneurial, both academically and commercially. When combined with a strong strategic oversight, professional co-ordination and support services, this adventurous mindset gets amazing results.

Cambridge played a leading role in the national and global response to COVID-19 across a huge number of disciplines. For example, with the Wellcome-Sanger Institute, it led a consortium of universities, NHS organisations and the UK's four public health agencies to sequence tens of thousands of samples of the SARS-CoV2 genome, providing critical insights into the origins and spread of the disease.

As a University, we want to build on our success, to go on making transformational discoveries and to drive economic growth both locally and nationally.

To make that happen, we need to collaborate with companies that can help us turn our bright ideas into commercial realities. If your organisation would like to work with us and become a part of the Cambridge story, please get in touch.

**Dr Diarmuid O'Brien,**  
Pro-Vice-Chancellor for Innovation



# Why Cambridge?

**For** world-leading research at the heart of a thriving ecosystem. **For** innovation, development, commercialisation and access to patients, all in one place. **For** the perfect conditions in which new ideas and businesses can emerge and flourish.





## Research excellence

Cambridge is one of the world's leading universities. We bring research excellence to bear on problems from a wide range of disciplines in science and technology as well as the social sciences and humanities.

**121** Cambridge affiliates have won Nobel Prizes, including 27 for Medicine.



## Global companies are here already

In 2016 AstraZeneca moved its global R&D and corporate headquarters to Cambridge.

**14** other multinational healthcare companies also have a presence here.

As do more than **25** of the world's largest corporations, including Apple, Amazon and Microsoft, all adding to the pool of talent, ideas and resources.



## Entrepreneurial spirit

Firms in the 'Cambridge Cluster' generate an annual turnover of **£48** billion of which life sciences companies contributed **£9** billion in 2021-22.

There are **30+** science and technology parks in and around Cambridge including the renowned Babraham Research Campus and Wellcome Genome Campus.

There are **600+** life sciences and healthcare companies here, with more than **360** new ones started since 2011.



## Talent and skills

At the Cambridge Biomedical Campus alone there are **17,500** researchers, clinicians and healthcare professionals, including **11,500** staff in the Cambridge University Hospitals NHS Foundation Trust.

**22,500+** people work for life sciences and health companies in and around Cambridge.



## The NHS

**3** of the UK's leading hospital trusts are in Cambridge – Addenbrooke's, the Rosie Maternity Hospital and Royal Papworth Hospital. Cambridgeshire and Peterborough NHS Foundation Trust work with them as they strive to improve the health and wellbeing of the people they care for. Clinicians, researchers and healthcare companies can work with each other and with patients, to get new ideas from 'bench to bed' as quickly as possible.



## All in one place

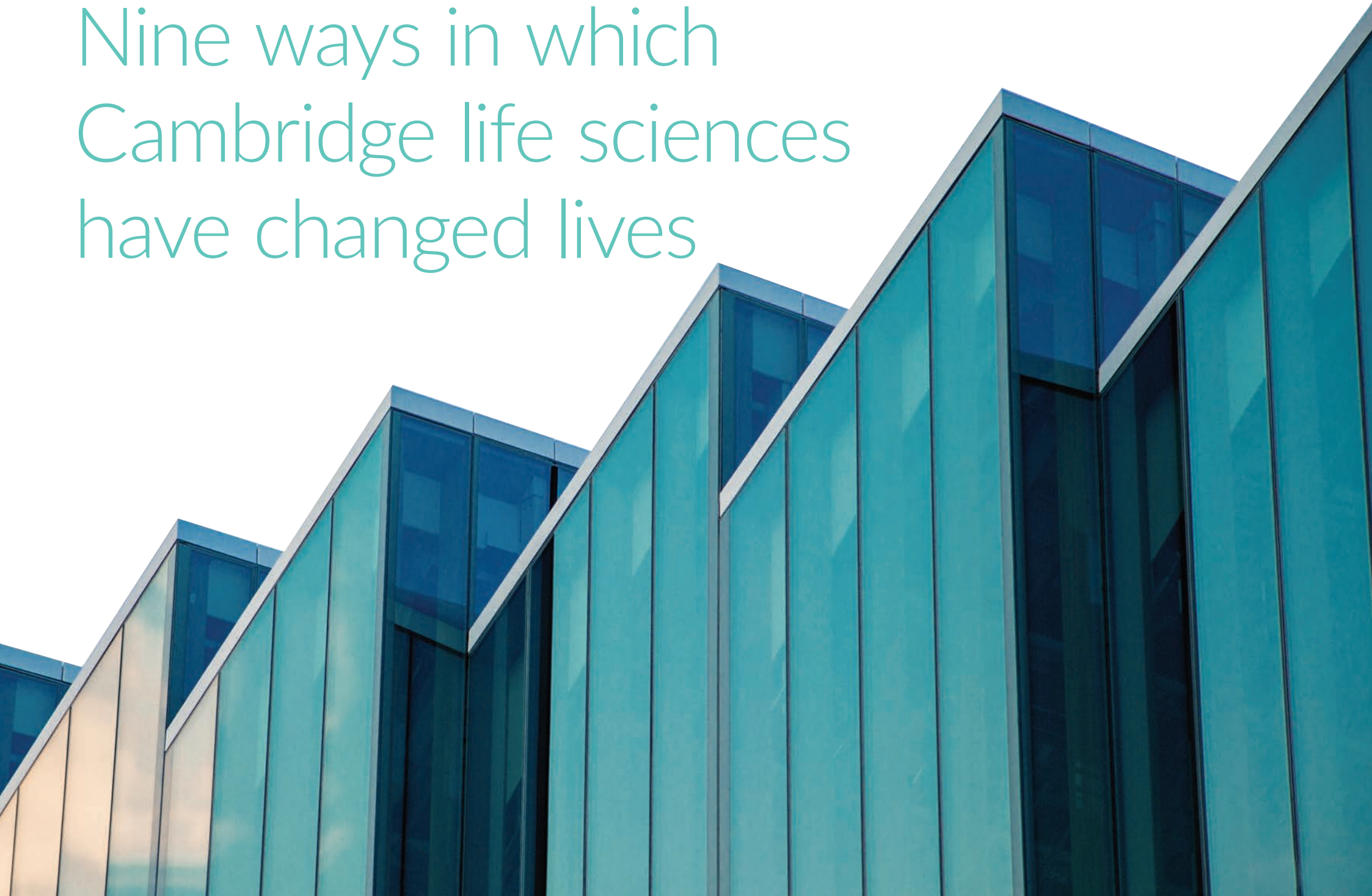
Having so many talented people living and working together in close proximity creates opportunities for chance meetings which spark new ideas and collaborations.



## It's easy to get to

Cambridge has excellent transport links nationally and internationally, with Stansted Airport close by, London (and Eurostar) **50** minutes away by train and a new Cambridge South railway station is under construction at the Cambridge Biomedical Campus.

Nine ways in which  
Cambridge life sciences  
have changed lives



## By discovering ...

- 1.** The structure of DNA
- 2.** How to sequence it, rapidly – giving us the foundations of precision medicine
- 3.** That breast cancer is not one disease but 10, all of which need different treatments
- 4.** How to create (eight million and counting) new lives through IVF
- 5.** How to transplant failing hearts and lungs (and other organs)
- 6.** How to clone a tadpole from a frog – paving the way for Dolly the sheep and the whole field of regenerative medicine
- 7.** How to make drugs using monoclonal antibodies leading to the development of six of the world's top 10 drugs used to treat millions of patients worldwide
- 8.** That x-rays can reveal how atoms are arranged in crystals
- 9.** And that the same technique can be used to determine the structures of proteins and enzymes, revolutionising drug discovery and medicine.

# Cambridge Biomedical Campus



**A global leader in medical science, research, education and patient care.**





“Cambridge Biomedical Campus is a thriving community where the worlds of academia, industry, research and health meet, collaborate together and work to tackle some of the significant healthcare challenges facing the world today.”

**Professor Patrick Maxwell,**  
**Regius Professor of Physic, Head of the School of Clinical Medicine**

**Cambridge:**  
the UK's capital of  
life sciences **22,000+**  
healthcare professionals  
and research scientists  
**600+** life science and  
healthcare companies.

- A. From University spinout to global company, Abcam supplies two thirds of the world's life scientists with the antibodies and reagents they need to develop new medicines.
- B. This is the site of a pioneering new children's hospital which will take a fully integrated approach to physical and mental health.
- C. The Anne McLaren Building houses a state-of-the art animal research facility supporting the UK's life sciences sector.
- D. The Rosie Hospital is one of the UK's leading maternity hospital and largest neonatal units.
- E. Addenbrooke's Hospital is one of the largest and most renowned hospitals in the country, a leading national centre for specialist treatment, a government-designated comprehensive biomedical research centre and a university teaching hospital with a worldwide reputation.
- F. GSK's Clinical Research Unit designs and executes innovative early phase 1 and 2 studies.
- G. Royal Papworth Hospital is a world-leading heart and lung hospital. Next to it, the Heart & Lung Research Institute houses nearly 400 researchers, scientists and clinicians.
- H. The University's School of Clinical Medicine has 12 Academic Departments, four Research Institutes and six Medical Research Council (MRC) Units.
- I. AstraZeneca's new global R&D centre and corporate HQ is home to more than 2,000 scientists.
- J. Site of the new Cambridge Cancer Research Hospital, improving early detection and precision medicine.
- K. MRC Laboratory of Molecular Biology is a leading international research centre which has won 12 Nobel Prizes.
- L. The Jeffrey Cheah Biomedical Centre is home to the Milner Therapeutics Institute, the Wellcome-MRC Cambridge Stem Cell Institute and the Cambridge Institute of Therapeutic Immunology & Infectious Disease.
- M. Cancer Research UK Cambridge Institute brings world-leading basic cancer biology and key technologies to bear on cancer diagnosis, treatment and prevention.

The nearby School of Biological Sciences has nine Departments and five Institutes across Cambridge working on a huge breath of discovery and applied biosciences.

# West Cambridge Campus



**Where academic excellence, collaboration  
and entrepreneurship thrive.**



“The University’s West Cambridge Campus plays a vital role in healthcare innovation, with Cambridge’s renowned Department of Veterinary Medicine situated alongside world-class research in science, technology and engineering. Increasingly companies base R&D teams here and it’s where the University’s support systems for commercialising new ideas are clustered.”

**Professor Richard Penty, Head of School of Technology, Professor of Photonics**

## University Enterprise Zone

Cambridge Health Tech Connect is a bridge between the Cambridge Biomedical Campus and West Cambridge Campus, catalysing connections and sparking collaborations between industry, healthcare and the University at the interface between medicine and technology.

- A. The Department of Materials Science and Metallurgy is combining the development of new materials with cell biology approaches and innovative characterisation to create new medical and drug delivery devices.
- B. Healthcare is one of the main research themes at the Department of Chemical Engineering and Biotechnology, specifically the formulation and delivery of biological medicines and designing new technologies for diagnosis and monitoring.
- C. At the Institute for Manufacturing researchers are exploring inkjet printing and additive manufacturing for diagnostics and medical devices, innovation management for healthcare and optimising pharmaceutical supply chains.
- D. Cambridge Enterprise helps University researchers, staff and students turn their ideas into commercial realities. It has helped create many successful life science spin-outs.
- E. The Physics of Medicine facility at the Cavendish Laboratory hosts research on a wide range of topics from fundamental science to commercial application.
- F. One of the world’s leading centres for veterinary science, the Department of Veterinary Medicine works on fundamental and applied aspects of infectious diseases, especially those that spread from animals to humans.
- G. The Maxwell Centre develops collaborative research projects with industry. It also plays a key role in the University Enterprise Zone, linking the Schools of Clinical Medicine, Physical Sciences and Technology with medical needs and applications.
- H. At the Department of Computer Science and Technology researchers are exploring AI and computational biology models to understand disease complexity and advance personalised and precision medicine.

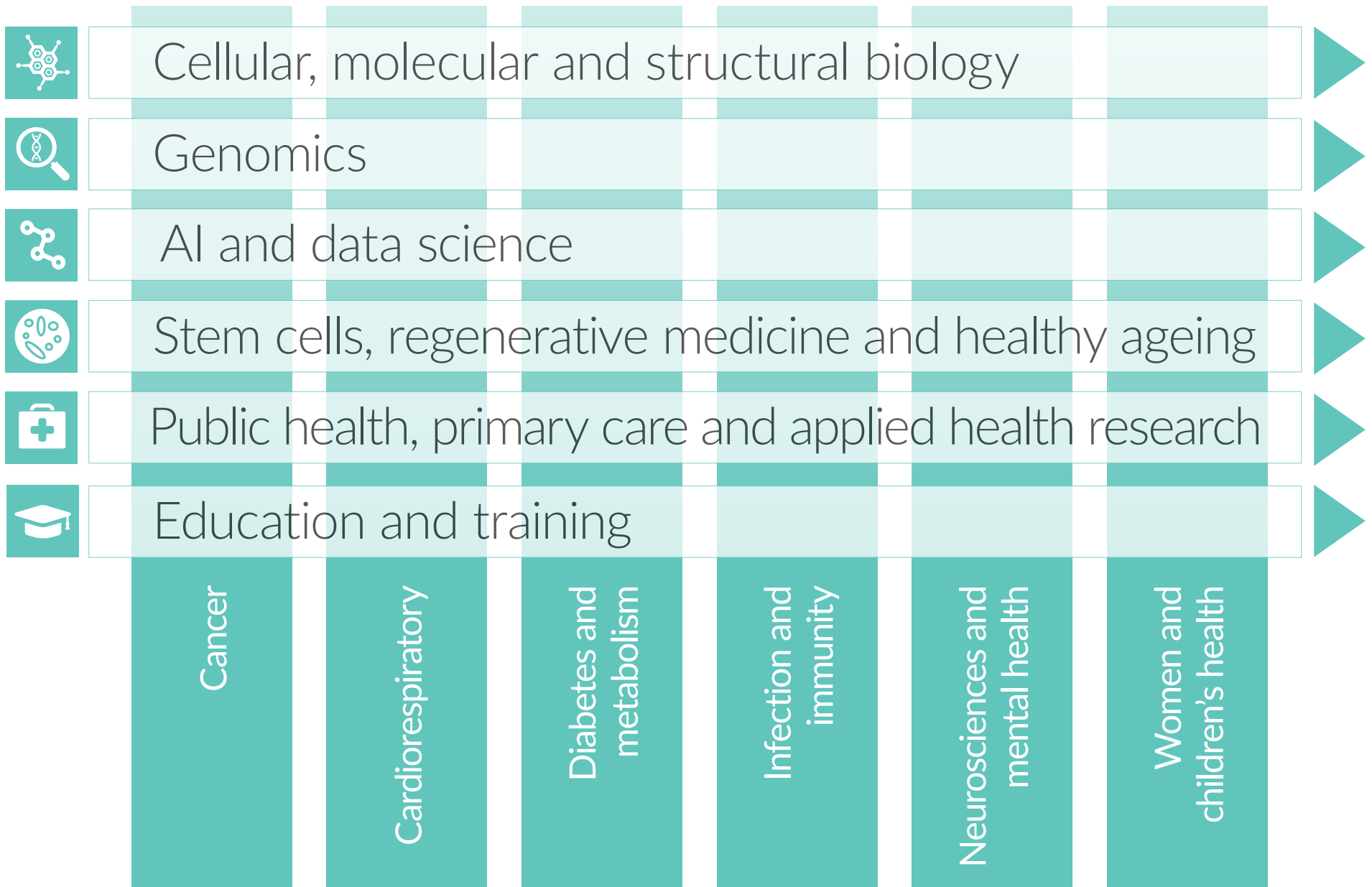
The nearby Department of Chemistry has a distinguished history of using chemical research to solve fundamental biological problems. Its Chemistry of Health research is focused on preventing and treating Alzheimer’s, Parkinson’s and other neurodegenerative conditions.

# How Cambridge research is making a difference

Our health research priorities are clustered around those areas where there is both pressing societal need and where we can make a breakthrough contribution to peoples' lives.



# Key research areas



Here are just some of the ways in which we have been making a difference:

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## TARGET:

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# Cancer

Over the last 40 years, cancer survival rates in the UK have doubled. As the leading centre for cancer research in the UK, Cambridge has a pivotal role to play in its prevention, detection and treatment.

### Cambridge is making a difference...

#### To our understanding of breast cancer

Cambridge researchers have identified 10 different types of breast cancer, each with a different survival rate and requiring a different course of treatment.

#### And how we treat it

PREDICT, a web-based breast cancer prognosis and treatment tool developed at Cambridge is now widely used throughout the NHS and beyond to assess the best course of treatment after surgery.



**TARGET:**

## Cardiorespiratory disease

Heart attacks and strokes are the world's leading killers, accounting for 18 million deaths each year.

### Cambridge is making a difference... To global efforts to predict and prevent cardiovascular disease

An initiative co-led by Cambridge University and the World Health Organization has developed a new algorithm to predict heart attacks and strokes now recommended worldwide, tailored to the vastly differing circumstances of 21 global regions to better target preventive action.



**TARGET:**

## Infection and immunity

Since the outbreak of COVID-19, the understanding and control of infectious diseases has become a global priority.

### Cambridge is making a difference... To our understanding of the transmission of COVID-19

In partnership with the Wellcome-Sanger Institute, Cambridge led the £20 million COG-UK Consortium, a major UK endeavour to track the mutation and spread of the infection through the genetic sequencing of tens of thousands of samples.

### To organ transplantation

As well as its expertise in infectious diseases, Cambridge is also home to some of the world's most important breakthroughs in organ transplantation and immunosuppression. In 1979, the UK's first successful heart transplant was carried out at Papworth Hospital, followed by the world's first heart, lung and liver transplant in 1986. Organ transplantation remains a principal clinical and research interest of the University's Department of Surgery.



**TARGET:**

## Diabetes, metabolism and obesity

Nearly a quarter of all adults and one in five children in England are currently classed as obese and it is estimated that more than four million people in the UK will have type 2 diabetes by 2025.

**Cambridge is making a difference...**  
**By finding a genetic cause of severe obesity**  
Cambridge researchers are investigating the many factors that lead to obesity, including genetic mutations – and developing treatments for them.



**TARGET:**

## Neurosciences and mental health

Multiple sclerosis is the most common immune system disorder affecting the central nervous system, with more than 2.3 million people affected globally.

**Cambridge is making a difference...**  
**By developing a treatment for active relapsing multiple sclerosis**  
Campath-1H (now known as Alemtuzumab) was the first drug to result from Cambridge research into monoclonal antibodies, providing an effective treatment for relapsing remitting multiple sclerosis.



**TARGET:**

## Women and Children's health

Fetal growth restriction (FGR) is a major cause of perinatal and infant death and lifelong morbidity.

**Cambridge is making a difference...**  
**By developing better methods of screening for it**  
Researchers found that a particular plasma protein is a predictor of stillbirth associated with FGR and this has become a standard NHS risk assessment for pregnant women. Further progress has been made through a study of more than 4,500 pregnant women which has led to a new screening approach currently being trialled.

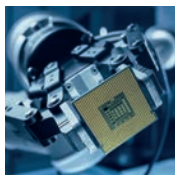


# 'Cross-cutting' research

In order to make progress in these key areas, Cambridge is also prioritising a number of critical underpinning capabilities and technologies.

## AI and data science

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AI is becoming increasingly important for diagnosis and clinical decision-making. Cambridge is at the forefront of these new developments, combining its expertise in life sciences with its world-leading research capabilities in mathematical, computing and data sciences.

A significant data resource for the life sciences community in Cambridge is access to the NIHR Cambridge Biomedical Research Centre, a bank of around 17,500 residents who have volunteered to take part in research studies.

## Stem cells

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Recognising the strength of Cambridge stem cell science, Wellcome and the Medical Research Council partnered with the University in 2012 to create the Wellcome-Medical Research Council Cambridge Stem Cell Institute. In 2019, it moved to new premises where researchers from different disciplines work alongside clinicians to accelerate the development of safe and effective treatments.

## Genomics

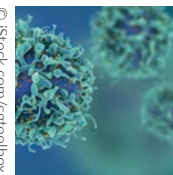
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Cambridge's pioneering work in genomics underpins clinical research across the University and will be a major focus for the new Children's Hospital, specialising in the early detection and prevention of rare diseases and serious mental and physical health conditions in children and young people.

## Molecular biology

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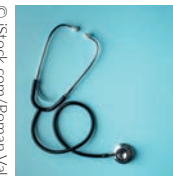


The University's expertise in molecular biology, particularly in areas such as cell cycle, chromosomes and gene expression, underpins advances being made across the life sciences and healthcare sector.

Many revolutionary techniques have been pioneered at the MRC Laboratory of Molecular Biology, including DNA sequencing, methods for determining the three-dimensional structure of proteins and the development of monoclonal antibodies.

## Global and public health

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Reducing ill health nationally and globally is a key research focus for Cambridge. Work at Cambridge's Institute of Public Health spans studies of major non-communicable conditions such as cancer, cardiovascular diseases, diabetes and obesity, and diseases of ageing, such as neurodegenerative conditions and bone disorders.

# Be part of the Cambridge story

Success breeds success. Which is why more than **25** of the world's largest corporations have already decided that they need a presence in Cambridge, including **Apple, Amazon** and **Microsoft**.

In the life sciences, there are currently more than **600** companies based here spanning pharma, biotech, medtech, healthcare and data, generating more than **£9 billion** in revenues a year. These include **AstraZeneca** which in 2016 moved its global R&D centre and corporate headquarters to Cambridge and multinationals **Amgen, Astex, Bayer, Biogen, BioNTech, Gilead Sciences, GSK, Illumina, Mundipharma, NAPP, Otsuka, Pfizer, Sanofi**, and **Thermo Fisher Scientific**, all have a presence here.



## AstraZeneca

**“We work with Cambridge University because it is one of the best universities in the world. Working with the best and brightest scientists is what’s going to enable us – and our Cambridge collaborators – to turn science into medicine and have a huge impact on patients’ lives.”**

**Steve Rees,**

SVP, Discovery Sciences, R&D, AstraZeneca



## GSK

**“GSK believes in strong, mutually beneficial collaborations with clinical and academic researchers. They are critical to advancing our R&D goal of doubling the development success rate of new medicines by focusing on genetically validated targets and leveraging advanced technologies, such as functional genomics. We welcome the opportunity to work closely with the University of Cambridge to achieve a shared vision – to harness innovation to accelerate the discovery and development of new medicines that can help more patients around the world.”**

**Dr Tony Wood,**

Chief Scientific Officer, GSK

## Strategic partners worked together to tackle COVID-19

In 2020, to increase the UK’s coronavirus testing capacity, AstraZeneca, GSK and the University set up a brand new laboratory from scratch in just three weeks. A project of this scale would normally take around six months but thanks to the efforts of 124 staff from across the three organisations putting in 2,292 hours of work, it was completed in record time. The lab was used for high throughput screening for COVID-19 and to explore the use of alternative chemical reagents for test kits.

## Where new ventures thrive

Abcam, Astex, bit.bio, Cambridge Epigenetix, Owlstone Medical, CMR Surgical and Bicycle Therapeutics are just some of the successful spinouts and start-ups that have made Cambridge their home – and are flourishing here.



**“Cambridge is one of the few places in the world where you can find all the skills and expertise needed to develop and commercialise such an exciting medical device as Versius robot. Our location has made a significant contribution to our success.”**

**Martin Frost,**  
CEO, CMR Surgical

**“Cambridge has been changing the world for over 800 years and it is only just getting started... Owlstone has benefited tremendously from being located in the heart of this incredibly dynamic environment. This has helped us to recruit top clinical scientists, engineers, chemists and other key personnel from the UK and around the world.”**

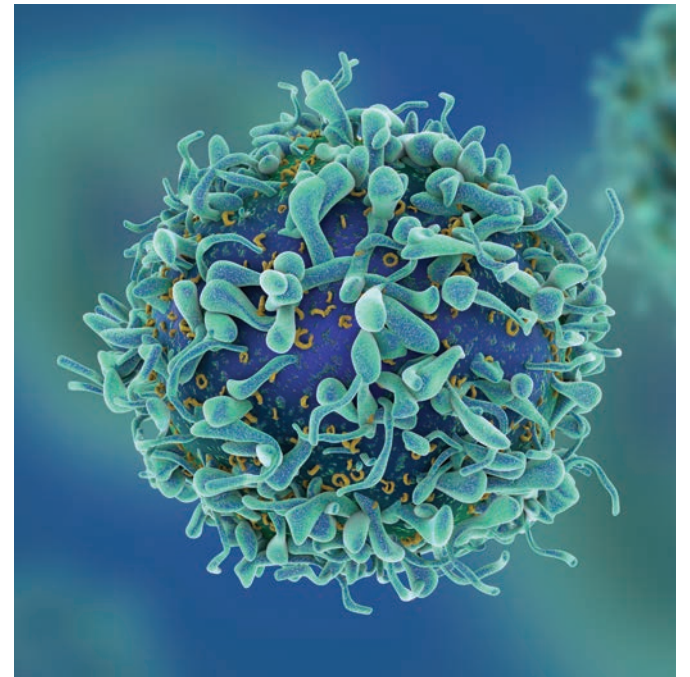
**Billy Boyle,**  
CEO, Owlstone Medical

**“One of the great things about Cambridge is that there are lots of examples of very successful biotech start-ups. I thought, if they can do it, why can't I? And that's the story of KuDOS.”**

**Professor Sir Steve Jackson,**  
founder of KuDOS, Mission Therapeutics and Adrestia Therapeutics

**“Cytel wouldn't exist without the University ... it has built an environment in which founders have been thriving for decades. Most importantly, it encourages people to try.”**

**Marcel Gehrung,**  
Founder and CEO, Cytel



# Join us...

... to turn blue-sky thinking into groundbreaking realities. We are looking for business partners with whom we can pool our expertise and resources and together address some of the world's most pressing healthcare challenges.

Our long-term, multidisciplinary programmes give our partners access to research across the University, and to novel technologies, labs and facilities as well as to joint applications for public funding. We provide strategic oversight and operational support to help our partners find their way around the Cambridge ecosystem, identify opportunities for collaboration and ensure that they deliver value to both parties.

# How you can work with us



## Ideas and Innovation

- Collaborate on research to tackle your most complex challenges.
- Explore new areas by funding PhD students.
- Solve a particular problem by hiring a researcher as a consultant.
- Join a pre-competitive consortium to share research insights and commercial expertise.



## People

- Bring Cambridge talent into your business through recruitment or by hosting internships, projects or placements.
- Access our open and bespoke executive education programmes.
- Build relationships by mentoring researchers.



## Place

- Be part of the 'Cambridge phenomenon'.
- Rent University office and lab space and work alongside our researchers.
- License our technologies, research tools and reagents.
- Invest in some of the world's most exciting life science spinouts.

# Talk to us

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