A brief overview

Introduction

This overview provides some highlights of University Group activities during 2018-19.

Vice-Chancellor's foreword

"Universities are increasingly complex institutions operating in an increasingly complex and regulated environment. We must redouble our efforts in championing our universities, and telling the compelling stories that will persuade our governments and societies of their relevance and enduring value. We must acknowledge the rise of public discontent and look to reaffirm and demonstrate that society's aspirations are closely connected to our own. We must improve the ways we engage and communicate what we do, how we do it and why. We must widen access and participation further, welcoming talent wherever it is from and delivering an outstanding student experience. We must show how we contribute locally, regionally and nationally, where our world-leading research fuels discovery and economic growth, human health and social cohesion.

Collectively, we must prove why our institutions deserve to be cherished rather than chastised."

Professor Stephen Toope
Vice-Chancellor

Financial highlights for the year ended 31 July 2019

The University's audited financial statements for the year ended 31 July 2019 are included after this overview and will be published in the Cambridge University Reporter in December 2019. The following analyses, extracted from those financial statements and the accompanying financial review, summarise the University's sources of income and the factors affecting net assets.

Group income £2,192m (2018: £1,965m) – year ended 31July 2019

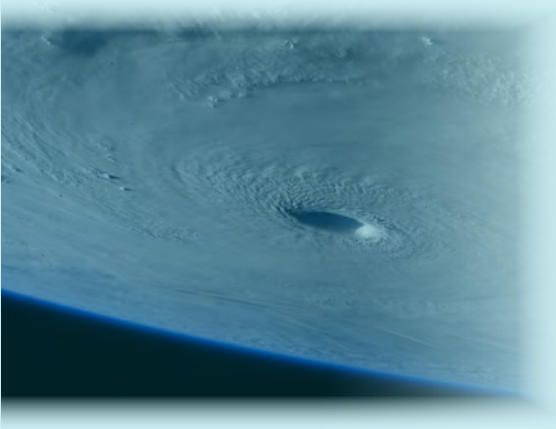
Funding body grants	£181.9m
Academic fees and support grants	£320.2m
Research grants and contracts	£592.4m
Examination and assessment services	£478.5m
Publishing services	£334.0m
Other income	£133.4m
Endowment and investment income	£151.6m

Group net assets at 31 July 2019: £5,145m

The Group's net assets totalled £5,145m as at 31 July 2019 (2018: £5,238m). The decrease in net assets largely relates to increased pension liabilities resulting from significant actuarial losses on the Group's contributory pension schemes and changes in the USS deficit funding levels, partly offset by increases in the value of investments and expenditure on fixed assets.

Cambridge Assessment

Our UK exam board OCR successfully adapted to government reforms, smoothly delivering a new suite of more than 100 accredited GCSE, AS, A Level and vocational qualifications. Our Cambridge Nationals suite of vocational qualifications were taken by over 73,000 students in 2019, up 62% on 2018. Our researchers' work investigating a fair method of delivering the new grade 9 to top-performing students was adopted by the regulator, with this year being the first all OCR's reformed GCSEs, graded on the new, numerical scale were sat by students. In support of this, over 5,000 teachers received some sort of training from OCR last year, ranging from practical ideas on how to teach the qualifications, through to a deeper understanding of assessment.



Avert environmental catastrophe with the help of AI

Cambridge has established a new Centre for Doctoral Training to develop artificial intelligence techniques to help address some of the biggest threats facing the planet. Climate risk, environmental change and environmental hazards pose some of the most significant threats we face in the 21st century. At the same time, we have increasingly larger datasets available to observe the planet, from the atomic scale all the way through to global satellite observations. The Centre brings computer scientists, mathematicians and engineers together with environmental and geoscientists to train the next generation of thought leaders in environmental data science. They will be equipped to apply AI to ever-increasing environmental data and understand and address the risks we face.

Cambridge University Press

How can we prepare students for the challenges of a world where the ability to analyse clearly, communicate well and work collaboratively is ever more important? Increasingly, educators expect students to acquire such competencies in the classroom along with subject knowledge. Cambridge University Press has devised a framework – Cambridge Framework for Life Competencies – to help incorporate these abilities systematically into English language programmes. These 'life competencies' bring together three elements: the acquisition of knowledge, skills and the mental attitude a student needs to learn successfully. Competencies are grouped into six main areas: creative thinking; critical thinking; learning to learn; communication; collaboration; and social responsibilities. The Press is now working to integrate them into the design of its English Language Teaching materials and courses, from primary level to adult. It is also helping teachers understand them better, build them into their teaching and monitor students' progress.

Personalised approach to treating inflammatory bowel disease

Researchers at the Department of Medicine and Cambridge University Hospitals NHS Trust have developed a new test that can reliably predict the future course of inflammatory bowel disease in individuals, transforming treatments for patients and paving the way for a personalised approach. The team had previously showed that a genetic signature found in a certain type of immune cell known as a CD8 T-cell could be used to assign patients to one of two groups depending on whether their condition was likely to be mild or severe. Now, they have shown that it is possible to develop a useful, scaleable test by looking at whole blood samples in conjunction with CD8 T-cells and using widely-available technology. The test is being developed by PredictImmune, a spinout company supported by Cambridge Enterprise. The team is involved in a £4.2 million trial to see whether using the biomarker to guide treatment at the time of diagnosis can lead to better outcomes for patients.

Sir Greg Winter wins the 2018 Nobel Prize in Chemistry

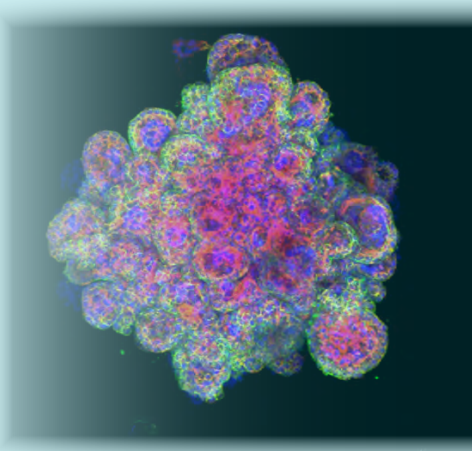
Sir Greg Winter, alumnus and Master of Trinity College (2012-19), was jointly awarded the 2018 Nobel Prize in Chemistry. The award was made for his pioneering work in using phage display for the directed evolution of antibodies, with the aim of producing new pharmaceuticals. The first pharmaceutical based on this method, adalimumab, was approved in 2002 and is used for rheumatoid arthritis, psoriasis and inflammatory bowel diseases. Since then, phage display has produced antibodies that can neutralise toxins, counteract autoimmune diseases and cure metastatic cancer. Sir Greg is a genetic engineer and is best known for his research and inventions relating to humanised and human therapeutic antibodies. His research career has been based almost entirely in Cambridge at the Medical Research Council's Laboratory of Molecular Biology and the Centre for Protein Engineering, and during this time he also founded three biotech companies based on his inventions: Cambridge Antibody Technology (acquired by AstraZeneca), Domantis (acquired by GlaxoSmithKline) and Bicycle Therapeutics.

Wooden skyscrapers could provide a greener alternative to concrete

Recent innovations in engineered timber have laid the foundations for the world's first wooden skyscrapers to appear within a decade, a feat that is not only achievable, according to the Centre for Natural Material Innovation, but one they hope will beckon in an era of sustainable wooden cities. The team based at the Faculty of Architecture includes architects, biochemists, chemists, mathematicians and engineers, who specialise in plant-based material, including cross-laminated timber, arguably the first major structural innovation since the advent of reinforced concrete 150 years ago. Concrete is five times heavier than timber, which means more expense for foundations and transport. It is also resource-intensive, and contributes to tremendous carbon dioxide emissions. The team is researching using plant-based materials as a greener alternative, with buildings sown like seeds and cities harvested as crops, a way of simultaneously addressing climate change and global housing shortages.

'Mini-placentas' could provide a model for early pregnancy

Researchers have developed 'mini-placentas' – a cellular model of the early stages of the placenta – that could provide a window into early pregnancy and help transform our understanding of reproductive disorders. Many pregnancies fail because the embryo does not implant correctly into the lining of the uterus and fails to form a placental attachment to the mother, but we understand little about what normally happens and what can go wrong. In the past few years, a new field of research has blossomed that uses organoids – 'mini-organs' – to study human biology and disease. At Cambridge, one of the world leaders in organoid research, scientists are growing everything from 'mini-brains' to 'mini-livers' to 'mini-lungs'. A team at the Centre for Trophoblast Research has now grown organoids using cells taken from placental tissue. These organoids so closely model the early placenta that they are able to record a positive response on an over-the-counter pregnancy test.



© Dr. M.Y.Turco (Centre for Trophoblast Research)

Almost one in five police officers suffers with a form of PTSD

Close to one in five police officers and staff in the UK have symptoms consistent with either post-traumatic stress disorder or what's known as "complex PTSD" – yet over two-thirds of those suffering are unaware. This is according to early findings from the largest force-wide survey yet undertaken, which focused on police wellbeing and screened for clinical symptoms of both disorders. The research has been conducted by a team of Cambridge sociologists, funded by the charity Police Care UK. The researchers say that overall PTSD rates in law enforcement are almost five times higher than general UK population levels, last estimated at 4.4% in 2014. Less than a third of those who showed signs of either disorder had been informed and understood this to be the case.

"With the opening of the University's new Student Services Centre, our students can now access support and advice on a range of issues at a single location in the centre of Cambridge, where staff can offer a much more integrated service. Good student support underpins academic success and a great student experience - and the University is committed to providing an equally positive experience to all."

Alice Benton, Head of Education Services

Concluding remarks

"It is critical to our continued success that we maintain the financial ability to invest in our staff and provide research and teaching facilities commensurate with our standing. Our financial strategy continues to support the maximisation of positive impact over time, rather than revenues and profits. In a period of unprecedented financial uncertainty for our sector and for the broader economy, Cambridge remains focused on generating a sufficient recurrent financial surplus to invest in our people, our infrastructure, our buildings and our systems, to remain one of the world's leading universities.

We continue to allocate unrestricted income and capital to reflect the University's strategic priorities and commitments and to manage prudently the significant risks and uncertainties that could otherwise undermine our effectiveness in delivering our mission. Key financial risks remain the ability to grow income particularly from regulated sources to match cost growth, the trading position of Cambridge Assessment and Cambridge University Press, and the performance of the CUEF. We remain comparatively well positioned to deal with these issues, with significant resilience from our diversified revenues, and additional sources available, and with our strong and liquid balance sheet that guards against short-term shocks, and allows time to make necessary operating adjustments."

Anthony Odgers
Chief Financial Officer