

**Institution: University of Oxford****1. Context and mission**

The University of Oxford is the world's oldest English-speaking university undertaking research and innovation that spans all aspects of science, medicine, the social sciences and humanities, supported by internationally important research collections and underpinned by a distinctive collegiate structure. Our mission is the **advancement of learning by teaching and research, and its dissemination by every means**. Our goal is to make a difference at all scales, from the local to the global, through impacts in technology, health, policy, culture, learning and economy.

The breadth of our research is reflected in our 31 UOA submissions and provides us with opportunities to forge connections between diverse disciplines. We celebrate and support equally all modes of research from the individual scholar to large international teams, and researchers at all career stages. Our global research outlook is reflected in the diversity of our students and staff, and our many in-country partnerships and overseas units around the world.

- Over 24,000 students including 6,800 research students
- 14,500 staff including 1,900 academics and 4,900 researchers
- External research income increased from £478m in 2013/14 to £634m in 2019/20
- 107,000 outputs over the REF period
- 102 spin-out companies in 2014-20

Academic departments are grouped into four divisions: Medical Sciences, Mathematical, Physical and Life Sciences, Social Sciences, and Humanities, while Gardens, Libraries and Museums (GLAM) brings together research collections for scholarly enquiry and provides a front door for the public to the wealth of knowledge and research curated and generated at the University. Teaching is co-ordinated with 39 colleges and 6 permanent private halls. Postgraduate numbers have grown significantly and to accommodate this growth in 2019 we established Reuben College for graduates. Oxford University Press (OUP) is a department of the University and the largest university press in the world. OUP's mission is to further the University's excellence in research, scholarship, and education.

Researchers, groups and departments have a high degree of independence over all aspects of their research, with divisions and the central University tasked to provide co-ordination (training, support, career development, etc), resources (infrastructure, large facilities) and opportunities (research funds, cross-discipline working). Collectively they provide the best possible research environment and experience for all researchers. These arrangements ensure that our work is researcher-led, regardless of career stage, and that all researchers are stretched and supported in adventurous research of the highest quality and impact.

**The region**

The University plays a key role in Oxfordshire, which hosts one of Europe's largest R&D concentrations, particularly in engineering, life sciences, medical instruments, publishing and tourism. Over 50% of employment is in higher skilled jobs, and small-to-medium enterprises (SMEs) dominate the economy. Clusters of national research facilities in the region include the Harwell Science Campus (Diamond Light Source, ISIS Neutron Source, etc.) and Culham (Joint European Torus fusion reactor and UK fusion programme). The vibrancy of the local innovation economy has increased opportunity for many but has also contributed to housing and other infrastructure pressures. To relieve strain on local housing, in 2018 we committed to build at least 1,000 new homes by 2023 for lower paid University and college staff.

## 2. Strategy

Our research strategy is (a) to promote and enable ambitious research of exceptional quality and (b) to change the world for the better through our research. We seek to attract and educate students and researchers of the highest international calibre and to provide a rich and flexible research environment that offers multiple pathways so that every researcher may achieve excellence and impact.

Our strategy is articulated in the University Strategic Plan (2018-2023), developed through extensive consultation and then agreed by Congregation (our governing body comprising academic and professional staff). Delivery of the research and innovation strategy is the responsibility of the Pro-Vice-Chancellors for Research (PVC-R) and for Innovation (PVC-I) respectively. They are guided by Research & Innovation Committee comprising senior representatives from all constituent parts of the collegiate university and external members. Divisional and departmental research strategies are nested within the University Strategic Plan.

### 2.1 Research strategy

Taken from our 2018-2023 Strategic Plan, the priorities and progress over the REF period are described below.

#### To invest in our physical research environment

In 2013 we launched a capital masterplan to revitalise key parts of our research environment and seize emerging research opportunities through a prioritised pipeline of building projects. We have now completed a mixture of core discipline, multi-disciplinary and collections buildings, including those for research in physics (Beecroft Building, £50m), population health and drug discovery (Li Ka Shing Centre for Health Information and Discovery, which includes the Big Data Institute, £46m, and the Target Discovery Institute, £23m), a new school of government (Blavatnik School, £55m), and the redevelopment of the New Bodleian library to create the Weston Library (£84m).

Recognizing that our building renewal must be accelerated, in 2017 we raised £750m through a bond issue (and a further £250m in 2020), and entered into a £4bn joint venture (JV) with Legal & General (L&G). Bond funds are focused on building the academic environment while the L&G JV is focused on staff and student housing and large-scale innovation facilities. Major capital investments underway include the Medical-Physical sciences Dorothy Hodgkin Institute (£92m, 2021), the Institute for Developmental and Regenerative and Medicine (£32m, 2021), and the Schwarzman Centre for the Humanities (£200m, 2025), which will also act as a hub for our major new programme in AI and Ethics.

**Emergency to opportunity:** In 2017 our biggest research building (23,500 m<sup>2</sup>, Zoology and Experimental Psychology) closed due to asbestos exposure risk, displacing 700 researchers overnight. Through an emergency £30m programme of purpose-designed modular laboratories, all experimental research was up and running within 15 months. Permanent re-housing will be in a purpose-built interdisciplinary Life and Mind Building (LaMB, £202M, 2024).

#### To increase the scale and scope of central funding for strategic research initiatives

Major capital projects aside, we devolve finances to allow additional investments, typically in academic posts, to departmental level, often augmented by divisional/central funds on a competitive basis, informed by strategic fit. For example, the John Fell OUP Research Fund (JFF) allocates £6m pa of support for early career faculty and pump-primes new research initiatives. JFF also provides co-funding for external bids and every £1 committed leverages ~£7

of external research funding. Start-up support for senior academic appointments is provided by our Higher Studies Fund (~£1m pa) and a new (2019) Strategic Research Fund (SRF).

The SRF was established to make *transformative* changes to our research capacity in targeted areas, funded principally by hypothecating the financial gains of innovation (licensing and our spin-out company share realisations). In spring 2020, the SRF was used to underwrite the very earliest stages of our COVID-19 vaccine research, before external funding was available, and was critical in quickly advancing vaccine research and manufacturing for clinical trials. In the next REF period, the SRF aims to invest £5m–£10m pa, including Oxford Net Zero that will integrate our expertise in climate, energy and policy research to provide evidence for equitable policy and science-based interventions to address global warming.

**Nightstar Therapeutics Ltd** (NT) was a spin-off gene therapy company developing treatments for rare inherited retinal diseases that lead to blindness. In 2017, NT floated on NASDAQ and was then sold to Biogen Inc. in 2019 for USD877m. A part of the University's equity was reinvested in our research via the SRF.

#### To diversify sources of research funding

We have diversified and grown our research income. For example, UKRI and charity funded research have increased by 9% and 7% in absolute terms but reduced from 28% to 23% and 29% to 24% in our portfolio (see §4.1). We have expanded our industrial research partnerships team that supports principal investigators, with the result that industry funded research has increased from £53mpa to £108mpa (12% to 17%). Philanthropic research funding has also been a growing part of our portfolio, including a £7m gift from Amazon Web Services for AI (2020) and £15m for COVID-19 research. In the next REF period, we will start to invest a £100m gift from INEOS in a new Centre for Antimicrobial Resistance Research.

#### To expand strategic international research collaborations

International research collaborations are used to achieve higher quality and greater reach for our research impact. In 2018 we opened the 20,000m<sup>2</sup> Oxford-Suzhou Centre for Advanced Research (OSCAR) near Shanghai, housing 50 postdoctoral researchers, growing to >150 by 2025. OSCAR is funded principally by the Suzhou Industrial Park but independently managed by Oxford academics to enable a greater regional focus for our research, for example, AI use in China's healthcare system.

To maximise the relevance and impact of our infectious disease research, we have long-term commitments to in-country partnerships, with 200 University researchers based in 10 overseas units that employ 2,500 local staff. Over the last 7 years, major developments include renewal of Wellcome-funded research partnerships in Vietnam (2015, £30m), Thailand (2015/20, £34m/£45m) and Kenya (2016, £45m) and a major new anti-microbial resistance activity in Vietnam (2020). Our overseas units have made significant research contributions, for example the elimination of multi-drug resistant falciparum malaria across large areas of SE Asia.

## **2.2 Enabling and facilitating impact**

#### To broaden and invest in innovation activities, to foster an entrepreneurial environment, and to expand innovation districts

Licensing and spin-out activity based on intellectual property from our research is led by the inventing researchers, supported in all facets of technology transfer by Oxford University Innovation Ltd (OUI). To enable other types of impact we have a central knowledge exchange

(KE) team for strategic initiatives but we also disperse KE activity and support staff into divisions and departments to be close to researchers. Examples (2014-2020) include:

- Formation of Oxford Sciences Innovation plc (OSI, 2015), a £600m early-stage investment fund to commercialise our research, and the largest single university focused innovation fund in the world. OSI sparked a step change increase in commercialisation activity: 8 spin-outs in 2013/14 increased to 19 in 2019/20; over the same period, OUI turnover increased from £14.5m to £31m and returns to the University increased from £6.7m to £17m.
- External investment in our spin-out portfolio in 2017/18 of £548m (a third of all UK spin-out investment that year) was surpassed in 2019/20 by investment of £855m in our spin-outs.
- OUI support for researchers to undertake external consultancy (advice, contracts, billing, indemnity insurance) increased from 400 contracts (2014) to >500 (2019/20).
- Construction of the Centre for Innovation and Enterprise (2,200 m<sup>2</sup>) on our Begbroke Science Park and the BioEscalator (1,500 m<sup>2</sup>) on our medical campus. The BioEscalator currently houses 13 companies and ~100 industrial researchers in the Novo Nordisk Research Centre, a significant inward investment by a leading European therapeutic company.
- Enterprising Oxford provides University-wide entrepreneurial support for students, staff, alumni, and the local community. Since 2015, EO has promoted 2,500 entrepreneurship events.
- The Oxford Foundry, opened in 2017 by Tim Cook, Apple CEO, provides space, training and support for student, staff, and alumni entrepreneurs. The Foundry has >3,000 members and 19 student-led ventures have raised £8m of investment into enterprises now valued >£40m. The rapid success of the student-led Foundry speaks to how our entrepreneurial culture has broadened and the entrepreneurial community ever more inclusive.
- The first Creative Destruction Laboratory activity outside North America (2020), co-funded by Research England (£2.6m) with 25 AI ventures selected from 270 applicants across Europe.
- Our SE2020 social impact translational fund helped form our first social enterprise spin-out sOPH1a (2019) using our Multidimensional Poverty Index (Queens Anniversary Prize, 2019) to fight global poverty.

In next REF cycle we will develop mixed-use large-scale Innovation Districts through our JV with L&G, increase innovation rewards for departments, and further expand The Oxford Foundry.

To improve the breadth and depth of public engagement

Building on departmental strengths in public engagement with research (PER) we have appointed an Academic Champion for PER at University level (2015) and in each division, established a central PER team, and delivered new PER Leadership training courses. Other activities include:

- Our Museum of Natural History lectures are broadcast live in >60 countries: a recent outreach event had >59,000 live contributions from 120,000 households.
- Our Zooniverse platform is the world's largest citizen-science research project, involving >1m people around the world who enable research otherwise

**Curiosity Carnival:** Oxford's European Researchers' Night (2017) was a city-wide programme across our museums, libraries, gardens, woods and the city where more than 42,000 people engaged with over 500 researchers. Visitor outcomes and impacts evidenced in feedback included: enrichment and inspiration; increased understanding and changed perceptions of research.

impossible or impractical, and has led to new discoveries, datasets and publications.

- Trusted Source (2016) is a partnership with the National Trust delivering easily understood articles about history, culture and the natural environment. Co-written by academics and National Trust experts, the articles build upon our research in history, culture, and the natural environment.

### 2.3 Community engagement and contributions to economy and society

London Economics Ltd estimated that the total economic impact associated with the University's research and KE activities in 2018/19 was £7.9b, of which £4.5b was generated by research and the associated productivity spill-overs to the economy, and £3.4b was associated with KE activity. Consequently, for each £1m of University research income, the resulting research and KE activity generated £10.3m of economic impact across the UK. The KE activity alone was estimated to support 27,600 full-time equivalent jobs in 2018/19.

The University is the largest regional employer and the growth of our spin-outs plays an increasing role in local employment. We have a major role in tourism with >3.2m (2018) visitors to our gardens, libraries, and museums, including to the Ashmolean, the world's oldest public museum.

Significant engagement occurs through partnership with Oxford University Hospitals Foundation Trust (OUH) and Oxford Health Trust in which our staff hold key clinical leadership roles. We share an integrated Joint Research Office for aligned clinical research governance and operations. The breadth of our partnership with the NHS across all of medicine is exemplified by our two NIHR Biomedical Research Centres (£125m over 5 years 2017-22). Our partnership with the NHS allows us to deliver high-quality care underpinned by access to latest medical innovations to 3m local people, but also provides an efficient gateway through which we can deliver benefits to all NHS patients.

We are committed to our research findings and expertise being used to support policy-making that impacts economy and society. We formed The Oxford Policy Engagement Network (2018) to provide opportunities for researchers to advise government, train early career researchers (ECRs) in what policymakers do and how to be an effective advisor, and fund policy-related fellowships, which, for example, facilitate placements in government departments and advisory bodies.

In the next REF cycle, the Schwarzman Centre for the Humanities (2025) will provide new venues for local engagement, including a 500-seat concert hall, 250-seat theatre, cafes and green public spaces. Alongside our new Innovation Districts, we will play a leading role in the Oxford-Cambridge Arc.

### 2.4 Supporting the open research agenda

To invest in digital tools and infrastructure to be a leader in open scholarship and to support open access

We established the Oxford Research Archive (ORA) open access repository for our research publications and doctoral theses, with >3m research output downloads in 2018/19. Support, training and advocacy for open research is provided by the Bodleian Libraries where an Open Scholarship team has been created (2020), led by a new post of Head of Open Scholarship Support. OUP's international reach provides us with further opportunities to advance open scholarship sustainably, in particular through its expertise in open access monographs.

Reproducible Research Oxford (RROx) is a spoke of the UK Reproducibility Network. RROx is centrally funded but researcher-led and promotes how open scholarship can improve the quality, impact and speed of research. for example: (i) RROx's Code Review Network independently

checks research code, helps debugging and teaches open source publishing; and (ii) ReproducibiliTea is an ECR-focused Journal Club for open science and reproducibility, started at Oxford and now involving 34 institutions (2019).

We commissioned a major review (2019/20) that identified a five-year programme of strategic IT and other investments to make us a leader in researcher-led open scholarship, and its implementation will shape our open research priorities for the next REF period.

## 2.5 Engaging with regional and national research priorities

The PVC-R is a Director of the Oxfordshire Local Economic Partnership and we fund a joint full-time post at OxLEP to ensure we are engaged and supporting the region. Our academics sit on sub-groups for Innovation, Skills, Culture and Visitor Economy, Clean Growth, and others have been involved in the formulation of the OxLEP Local Industrial Strategy and the co-creation of investment opportunities with local business. For example, our researchers working with OxLEP secured Project LEO, a £40m innovative public-private partnership to develop smart local electricity grids.

We have played a full and sometimes leading role in the creation and shaping of new national research institutes. We led the research and business case development for the “physical sciences into medicine” £103m Rosalind Franklin Institute (set up as a legal entity in 2018) and (with the Automotive Council) the £318m Faraday Battery Challenge and the Faraday Institution (2017), the Nucleic Acid Therapy Accelerator (2020); we co-led the Vaccine Manufacturing and Innovation Centre. These national initiatives are based at the nearby Harwell Science Campus, which also supports many other research and innovation interactions. We were founding partners in the Alan Turing Institute (2015) and the Sir Henry Royce Institute (2015); and the lead/host institution for a UK Quantum Technologies hub (2014, 2019). Our researchers have been actively involved in all these national institutes, providing interim leadership (e.g. National Quantum Computing Centre, Deputy Director, 2020) and ongoing scientific leadership (e.g. Faraday Institution, Chief Scientist, 2017-).

## 2.6 Supporting interdisciplinarity and collaboration

Through our colleges, interdisciplinarity is hard-wired into our structure, and the four divisions and GLAM have many programmes to bring researchers together through seminars, networks and other events. The Oxford Martin School (OMS), governed jointly by the four academic divisions, has forged a unique position in promoting interdisciplinary, solution-driven research and invests ~£2m pa into competitively bid research programmes. An example of an OMS research output is the Oxford Martin Principles for Climate-Conscious Investment, with BP plc commenting in 2020: “*Our strategy now covers the three elements of the Oxford Martin Principles: we have committed to being a net zero company, we intend to become a net zero company in a profitable manner, and we will be measuring our progress at regular intervals.*”

TORCH (The Oxford Research Centre in the Humanities) supports interdisciplinary networks and thematic programmes (e.g. Race and Resistance, and Climate Crisis Thinking) and international collaboration (e.g. The Oxford-Berlin Research Partnership with 4 Berlin-based universities). During 2018/19, TORCH hosted almost 400 events, with audiences of over 20,000 people (reaching over 50,000 globally online in 2019-20). Since 2013, TORCH has supported 400 researchers each year; 62 KE fellowships; over 50 seed-funded research networks and 10 new research programmes.

The JFF and our GCRF QR allocation fund AfOx – the Africa Oxford initiative – bringing together 300 Oxford researchers working with 200 institutions across 30 African countries. AfOx offers travel grants (~25 pa) and Visiting Fellowships (10 pa), supports African researchers in Oxford, and runs summer schools and conferences. AfOx plays a critical role in delivering our £20m UKRI GCRF Accelerating Achievement for Africa’s Adolescents Hub involving five departments

and many African partners. In the COVID pandemic, this hub led an emergency coalition of the WHO, UNICEF and others to adapt and translate our evidence-based parenting resources into 114 languages and made them open source. Since April 2020, 29 governments have been using our resources in their national COVID responses.

## 2.7 Research integrity

Training in research integrity was made compulsory for all researchers in 2020, bringing the entire University in line with long-established best-practice in many departments e.g. clinical subjects. All integrity and ethics policies, guidelines and training comply with or exceed the UK Concordat to Support Research Integrity. We publish information about cases of research misconduct and have procedures to support all researchers with concerns over poor practice or misconduct. Evolution and implementation of the research integrity agenda is overseen by the Research & Innovation Committee and a network of central and department-led research ethics committees. Research Services ensures that policies are implemented through all stages of research, from idea to final data curation, and promotes responsible innovation.

We operate a Committee to Review Donations and Research Funding to assess the provenance and reputational issues of donors and research funders. To promote independence and avoid conflicts of interests, the committee comprises external members, one of whom is the Chair, and others drawn from across University Congregation; it excludes senior staff such as the VC and PVCs. We publish annual statistics on the committee's decisions.

## 3. People

We aim to attract, recruit and retain the highest calibre staff, working towards an increasingly diverse staff profile, and supporting staff in their personal and professional development. Over 80% of research staff are externally funded, and on fixed term or, increasingly, open-ended contracts. Reflecting our global outlook, 45% of teaching and research and 50% of research staff are non-UK nationals.

### 3.1 Staffing strategy and staff development

The two substantive academic posts are Associate and Full Professor, typically with a linked college fellowship, often with teaching or other responsibilities, termed a 'joint appointment'. Progression and promotion occur through the award of full professor title (Recognition of Distinction exercise, annual) and/or professorial merit pay (based on contributions to research, teaching, citizenship, and leadership). External references and peer assessment are integral to these processes. Staff in other posts can also be awarded Associate Professor title where comparable contributions are made. Statutory Professors are a further category and tend to be named/endowed positions appointed through an international gathered field competition. Finally, non-joint appointment research Professorships are for leadership of large externally-funded research programmes/centres, or in cases of a high clinical case-load, and have risen 20% over the REF period.

Associate Professors are appointed initially for five years with reduced teaching and administration, and assigned an academic mentor. There are interim and final academic reviews against pre-agreed criteria. After the initial period, appointment is then usually made until retirement with regular one-to-one reviews undertaken by the Head of Department. Academic staff are eligible for sabbatical research leave (one term's leave for every six of service). In 2020 we introduced an entrepreneurial leave scheme for staff to devote time to supporting the early, critical stages of a spin-out company.

Nearly 50 staff support researcher professional development, much of it through the Centre for Teaching and Learning (CTL) and a People and Organisational Development Unit (POD). The

latter provides training for academic/research staff with a focus on developing management and leadership skills, and preparing staff to manage projects, people, and workload. Extensive induction materials are available to every researcher. Some induction units are compulsory (e.g. data security, health and safety), and complement departmental-level induction programmes.

A biennial, institution-wide staff survey critically informs our people strategy. For example, feedback from the most recent survey (2018) was used to tailor our personal development review (PDR) for academics, researchers and support staff; it also led to the appointment of Divisional Advocates for Researcher Development to oversee local implementation of researcher PDRs and their wider development. Past surveys also encouraged further liberalisation of working arrangements, and over 70% of respondents (2018) report use of flexible working.

In 2014 we introduced a 'Returning Carers Fund' providing grants to support staff who have had a break for caring responsibilities to re-establish their research. The fund has awarded >250 researcher support packages. In 2020, we created a sister 'COVID Rebuilding Research Momentum Fund' for those most adversely affected by the pandemic, making 116 awards to ECRs for emergency childcare, improving the home working environment, and training. We run five University nurseries providing access to affordable, high-quality early years care for the children of staff and students (1:31 places per staff versus a Russell Group average of 1:61) and a generous maternity/shared parental leave package that is a 'Day 1 benefit' with no minimum qualifying period – an important resource for fixed-term contract researchers.

### **3.2 Early Career Researchers**

#### To enhance the opportunities and support for early-career researchers

We created the post of Academic Advocate for Research Staff Development (2018) along with Advocates in each of the four academic divisions to provide greater focus on needs and support of fixed-term contract researchers. We have strengthened and funded our ECR representative group, the 'Oxford Research Staff Society', and given research staff a greater voice in decision-making across the University, up to and including at University Council. We established (2020) a new Research Staff Hub with 5 FTE staff to co-ordinate ECR support best-practice, to provide bespoke space for career and professional development, to train new principal investigators in researcher management, to enhance mental health and wellbeing support, and to build a stronger researcher community. One example of Hub activity is building researcher business awareness through consultancy work, in multi-disciplinary teams, for local organisations.

The colleges offer highly competitive research fellowships, primarily for ECRs, and college-based researchers represent ~9% of our REF2021 submission. Over the next REF cycle we will grow college affiliations for University researchers, extend alumni benefits to research staff, extend the Hub to our medical campus, and challenge and evolve our research culture to recognise and support all contributions to research.

### **3.3 Research Students**

Research students are critical to the vitality of our research environment and numbers have increased 13% (2014-19), with the largest increase (18%) in STEM subjects. Research students are members of a department, and of a college that provides a close-knit, multi-disciplinary academic community. To accommodate this research student number growth, in 2019 we established Reuben College as a new graduate college, admitting 100 students in 2021 to reach a steady-state of 600. We offer 1,000 competitively awarded graduate scholarships annually and nearly 60% of research students are fully funded. We aim to support students to timely completion of their doctorates and significant student hardship funds are available for unforeseen difficulties.



Research students have departmental supervisors, often a co-supervisor, a separate welfare supervisor, and a pastoral supervisor in their college; variations to these arrangements – for example in Centres for Doctoral Training – are readily accommodated. Termly progress reports from students and supervisor(s) are independently reviewed by departments and colleges. Department Directors of Graduate Studies follow research student progress, in parallel with college pastoral supervisors, providing a well-resourced, personalised and responsive framework running alongside the supervisor relationship. Training is usually departmental and students encouraged to mix mandated “core” training with free selection from across the University.

Student welfare and support services are extensive and include disability advice and counselling (including remote counselling) with close co-ordination and complementarity services between the University and colleges. In 2019, we launched a Mental Health and Student Wellbeing Strategy, and set up a Sexual Harassment and Violence Support Service, which has received two national awards for excellence. The University’s Careers Service provides advice, professional training and support services for research students, including workshops on graduate internships, start-ups and an annual Careers Conference for Researchers.

In 2019 we launched UNIQ+ to encourage progression to research degrees from under-represented groups. The programme involves a 7-week summer *paid* research internship with accommodation provided. We expanded the programme in 2020 to 100 participants, and will increase further to 200. We have piloted (2020) socio-economic contextual data in admissions to five doctoral training programmes. We have created a Black Academic Futures programme (2020) for 10 scholarships for Black UK research students, alongside additional targeted scholarships for under-represented groups in Humanities and Law.

Over the REF cycle we will increase research student numbers by 1,500 and graduate scholarships at least proportionately, increase graduate diversity, grow significantly the Black Academic Futures programme, and strengthen mental health and wellbeing support.

### 3.4 Equality, diversity and inclusion

We are committed to a working, learning and social environment that promotes equality, values diversity and in which the rights and dignity of everyone are respected. We take opportunities to advance equality whenever we can. Over the REF period we have:

- Increased the proportion of women in senior roles from 34% to 43%
- Received the Race Equality Charter, Bronze (2018)
- Moved from 244 (2015) to 76 (2019) in the Stonewall Workplace Equality Index
- Renewed our HR Excellence in Research accreditation (2020)
- Adopted the Declaration on Research Assessment (DORA) for University-wide recruitment and promotion (2018)
- Increased from 6 Silver and 20 Bronze Athena SWAN awards to 18 Silver and 15 Bronze, targeting at least 50% of departments to be Gold or Silver by the end of 2021

In the future, we will act on the findings of our Race Equality Taskforce, reporting in September 2021, which has been convened to engage, listen, share ideas and drive change that will address the under-representation of racial minorities, especially at the most senior levels, within the University.

We continue to work to eliminate any gender pay gap, and our Gender Pay Gap Report (2019) stated:

- Although lower than the UK median, the median pay gap has remained at 13.7%
- The mean gender pay gap has decreased from 25% to 20% and we have an action plan for further progress
- We have eliminated any median bonus pay gap

- A greater proportion of women are in receipt of bonus payments than men

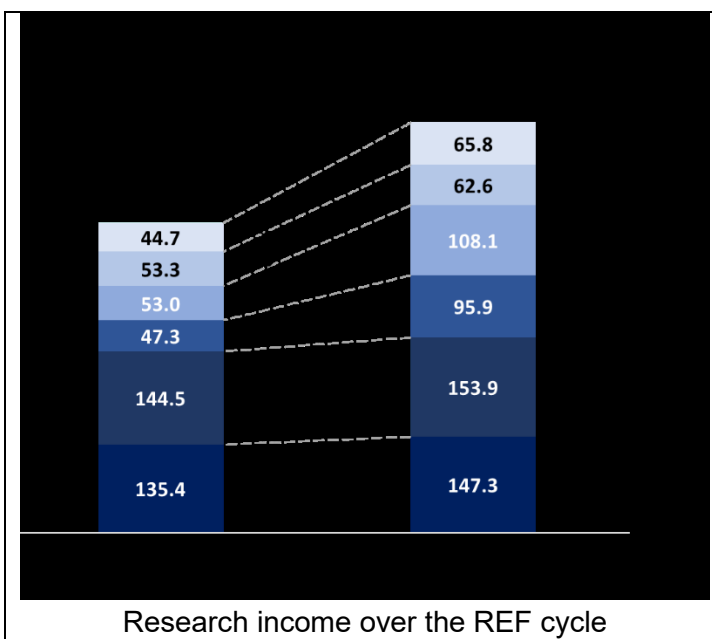
For our REF submission, we appointed cross-Panel observers to ensure consistency in eligibility decisions across UoAs and our interim Equality Impact Assessment showed the overall proportion of Cat A submitted female staff increased from 30% (2014) to 35%. Our Code of Practice encouraged output selection to be anonymised and UoAs were required to analyse and address any bias in output scoring and selection. For number of outputs per researcher selected for submission, there was no statistically significant evidence for gender bias. A full analysis by other protected characteristics was hampered by low declaration rates and absolute numbers.

#### 4. Income, infrastructure and facilities

##### 4.1 Supporting research income generation

Research income increased by 32%, from £478m (2013/14) to £634m (2019/20, the highest in the UK) and sources of funding diversified. UKRI and UK charities remain our largest income sources but most growth was in industrial, UK government department and international income.

Over 400 FTE professional services staff are engaged in research support, sharing best-practice through our Research & Innovation Support Network. Support for researchers seeking funding is delivered through divisional facing teams that include industrial partnership specialists, including a number of joint funded posts, including with the NHS, the Satellite Applications Catapult, and Novo Nordisk. Central Research Services (7,300 research contracts in 2019/20) provides support for more specialist or complex areas, such as clinical trials or overseas partnerships. Philanthropic funding makes an increasing contribution to our research, which is stewarded by the Development Office in close collaboration with researchers. Donations are targeted to support academic posts, new research programmes, research student scholarships, and new infrastructure (§2).



##### 4.2 Infrastructure and facilities to support research and impact

GLAM contains 21m objects, specimens and printed items curated by specialist staff. Within GLAM, the Bodleian Libraries is a national repository and the UK's largest university library system comprising the Bodleian Library and 27 subject libraries, holding more than 13m printed items, 80,000 e-journals and outstanding special collections including rare manuscripts. The Bodleian provides extensive support and training for researchers to access resources efficiently. The £84m transformation of the Weston Library (2015) provides a new home for the Bodleian's special collections and extends physical public access to the Libraries' treasures. Many of the colleges have extensive libraries, often with unique resources.

TORCH supports research and engagement with its global reach across digital platforms. With 134k visitors to the website each year; over 35k followers on social media; and over half a million views on YouTube and the podcast platform during the REF period.

There are many large multi-user research facilities hosted and locally managed by experts in the academic divisions, for example large centres for microscopy and nuclear magnetic resonance that serve and are sustained by a vibrant UK academic user base. Many of these and other Small Research Facilities (SRFs) are bookable over the web, and/or access is triaged by technical experts to ensure efficient use of instrument time. Unusually, we also operate a Clinical BioManufacturing Facility (CBF) that serves global research groups with novel biotech products for phase I/II clinical trials. In the REF period, trial vaccines have been produced for prostate cancer, malaria, MERS, Zika and COVID-19.

Research IT infrastructure is overseen by a Research IT Board, and has instigated, for example, roll-out to departments of electronic laboratory notebooks (2018) and the upgrade of the Oxford Research Archive to support better our open scholarship initiatives. High performance computing (both parallel and high-throughput configuration, CPU & GPU options, 2PB storage) is provided by our Advanced Research Computing (ARC) facility that is free to all researchers, along with software and expert support and training. ARC also hosts departmental supercomputers in an appropriate environment and leads the Joint Academic Data science Endeavour Tier (JANET) 2 high-performance computing facility, uniquely designed for machine learning and data science applications.

#### **4.3 Equality and diversity**

The profile of our research funding portfolio by gender of principal investigator is reviewed periodically at Research & Innovation Committee. For example, the proportion of research funding applications that were submitted by females has increased from 31.9% in 2016/17 to 33.4% in 2019/20, but for lower values than male counterparts. To deepen our understanding of these trends and their reasons, and the differences between disciplines, gender and protected characteristics, in 2020 we commissioned a major new project that will report in 2021 on the underlying factors influencing how external research funds are sought.