**Institution: University of Greenwich**

## 1. Context and mission

### History

Founded as Woolwich Polytechnic in 1890, the University of Greenwich has a proud history of high-quality teaching and outstanding research, with strong links to business and its local communities in Greenwich, Avery Hill and Medway.

Our original focus on higher technical education expanded in 1970 following a merger with part of Hammersmith College of Art and the incorporation of Dartford College (1976). Avery Hill College of Education (1985) and parts of Goldsmiths College and the City of London College followed, and University status was granted in 1992. Further incorporations, including Thames College of Health Care Studies (1993) and the Natural Resources Institute (1996), led to our current configuration and offering.

### Today

Today the University of Greenwich ("University") educates over 21,500 students in the UK, of whom nearly 6,500 are studying at postgraduate level. It also has a sizeable transnational activity (TNE) with over 15,000 students studying wholly overseas through c30 partnership organisations across 19 countries.

We offer a diverse educational curriculum in four Faculties distributed across three campuses. The Faculty of Business (including business management and economics subjects) and the Faculty of Liberal Arts and Sciences (including Schools of Design, Law & Criminology, Humanities and Computer Sciences & Mathematics) are based at the Greenwich Maritime campus.

The Faculty of Engineering and Sciences (incorporating Schools of Engineering, Science and the Natural Resources Institute (NRI)) is located at the Medway campus and the Faculty of Education, Health and Human Sciences (with Schools in each of these subjects and the Institute for Lifecourse Development (ILD)) operates across all three campuses, although primarily at Avery Hill.

In Medway, we are a partner in Universities at Medway (with Kent and Canterbury Christ Church) occupying a shared campus at Chatham Maritime. Each institution offers its own range of full and part-time courses, drawing on its own individual academic strengths. Library, sports and social facilities are shared, providing academics and students with access to a first-class educational environment.

We employ around 1,500 staff; approximately 50% occupy academic roles and 50% professional/administrative roles. Just over half of academic staff are considered to have a significant responsibility for research (SRR) with staff selecting and pursing a research career pathway as part of the University academic framework.

Annual turnover is c£215M pa, with research and enterprise revenues accounting for over 12%.

The University is returning staff into 13 units of assessment, reflecting its broad educational provision. This is slightly fewer than in REF2014 due to the reprofiling and aggregating of some research units.

We have a proud tradition of fostering diversity and providing education and research opportunities to disadvantaged groups. Over 55% of our undergraduate student population comes from areas of deprivation and 53% of our undergraduates, 45% of postgraduates and 48% of our staff are BAME.

The University has a strong engagement with a broad spectrum of businesses, charities, and industry groups. These are typically micro, small and medium-sized entities primarily in construction, engineering and the scientific sectors at Medway; the finance, service sector and visitor economy at Greenwich; and the public sector, in particular health and education, across all campuses.

We work closely with our local councils and actively participate in business groups including the London & South East Chambers of Commerce as well as academic touchpoints such as the University Alliance and Universities UK.

We have a 'Silver' institutional award in the Teaching Excellence Framework (TEF) and are rated 'Good' by Ofsted. Our impact and alumni are widely-recognised and we have received five prestigious Queen's Anniversary Prizes for NRI's work in Africa on Food Security, Sustainable Pest Control and Tackling the Causes of Poverty.

We are a modern university with an established focus on teaching, vocational education and serving our communities, as well as an active, growing and broad international research profile.

**Mission**

Making Greenwich Great II, our Strategic Plan 2017- 22, sets out our mission of *transforming lives through inspired teaching and research*. The second phase of a ten-year strategy, it has five additional strategic objectives:

- Enhancing science and society through inspiring research and enterprise
- Creating engaging campus environments and services
- Supporting and developing staff
- Internationalising Greenwich
- Enhancing student employability

The University considers itself to be 'research-informed'. Knowledge from our research endeavours, and the associated opportunities to engage with research, is reflected in taught provision and further reinforced through external profile to positively impact stakeholder and community groups.

A key component of that research profile is provided by NRI which:

- is the recipient of an Expanding Excellence in England (E3) award
- leads a Centre for Doctoral Training in UK Food Systems
- received a Strength in Places award to enhance horticulture, food and drink industries in Kent and Medway.

NRI, together with the emergent ILD and other nascent Institutes/coordinated Centres, embodies our research ethos and ambition to aggregate cognate activity into multi-disciplinary groupings to achieve the critical mass needed to make significant contributions to the societal and technological challenges of the day.

**2. Strategy**

The goal of our Research & Enterprise Strategy for REF2021 is to significantly improve our position as a leading UK University undertaking distinctive, world-leading research of rigour and significance. This has required a cultural change in the University, with research activities gaining prominence and becoming embedded within our educational offerings and academic structures.

The four key aims of the Research & Enterprise Strategy are:

- Enhancing our research culture by increasing impactful research activity and promoting international research excellence across the institution.
- Maximising the societal impact of our research and expertise by fostering a culture of enterprise and external engagement.
- Developing effective and comprehensive research training mechanisms to support the research community across all career stages.
- Embedding Research and Enterprise activities into the Learning and Teaching culture across programmes.

These aims include specific objectives to;

- develop an effective research environment across the University, pro-actively supported by professional services
- stimulate and support a vibrant pipeline of impact-rich activities leading to innovative products, processes and services
- maximize global impact by nucleating recognized Centres of Excellence such as NRI that bring critical mass to key research themes though targeted investment
- strengthen effective partnerships at senior and operational level with regional public sector bodies to promote the anchor role of the University in the region, as well as innovation and commercial institutions that play a leading role in our research themes
- become a prominent UK university for social enterprise and entrepreneurship.

In support of this the University has successfully implemented a number of strategic enablers;

- a new academic framework with clearly defined academic career pathways
- a new Research & Enterprise Training Institute (RETI) to integrate training across all career stages and deliver a comprehensive programme of training (aligned to Vitae's Research Development Framework).
- a strategic investment plan using QR and our own development funds to support the growth and development of international research excellence through informed, targeted and evidence-based investment in staff and facilities.
- creating a clear and defined collaborative structure of research groups, centres and Institutes, with targeted investment of strategic, QR, RCIF and HEIF funding.
- a comprehensive annual assessment of research endeavours focusing on research outputs and impact to shape the strategic investment priorities and as a developmental opportunity for staff.

Through these and other actions, we have:

- Increased the proportion of eligible staff submitted to REF **from 25%** (201.5 FTEs) in 2014 **to 50%** (387 FTEs) in 2021
- Increased the amount of research income submitted to REF **from £39.1M** in 2014 to **£96.1M in 2021**
- Increased the number of doctoral completions in the REF period from **223** in 2014 to **432** in 2021
- Increased the number of outputs listed in Scopus by **44%** from c3300 in the REF2014 period to c4700 in REF2021
- Increased the number of outputs published in top quartile journals by **93%** from c1210 in 2014 REF period to c2340 in the 2021 period
- Increased the total outputs with international co-authors from c1330 (40% of output) to c2530 (53%) – an increase of **90%**

*Enabling ecosystem*

We have invested significantly in strengthening the research ecosystem through an enabling central structure (GRE) dovetailing to Faculty-level functions. We have:

- Implemented a University-wide research impact strategy and appointed an Impact Framework Manager to drive impact-nurturing activities
- Provided training on public engagement, knowledge exchange and other impact-oriented topics and networking events
- Established an Enterprise Development Team providing support on stakeholder identification and engagement for socially and commercially-oriented impact
- Undertaken a dedicated effort to drive public engagement, knowledge exchange and other impact-oriented activities
- Utilised software tools such as Vertigo Ventures Impact Tracker for planning, monitoring, curating and evidencing impact from research and tools such as Altmetric for scanning the environment to assess attention accorded to research outputs by audiences beyond academia.

The ecosystem is further structured through robust policies, extensive training and engagement with external regulatory structures such as the *UUK Concordat to Support Research Integrity* (2012, 2019) including:

- [Code of Practice for Research](#)
- [Research Ethics Policy](#)
- [Ethical Research Collaboration Policy](#)
- [Procedures for Investigating Research Misconduct](#)
- [Academic Regulations for Research Awards](#)

We adopt sector-wide group practice wherever possible to improve this ecosystem, including:

- *Open Research* - engagement with the Open Access agenda through the Springer Compact Deal which allows authors to publish Open Access through our journal subscription and targeted use of the RCUK Open Access Block Grant. Since the Open Access (OA) policy was implemented the proportion of OA items deposited has increased three-fold, with a corresponding increase in the numbers of downloads:
- *Open Data* – fostered a research environment which recognises the value of open data, providing appropriate access to infrastructure systems and services, via;
    - A [Research Data Management](#) policy
    - Extensive in-person training provision through GRE/RETI (see below)
    - Expert input into all funding bids to ensure *Open* requirements are met and to provide recommendations for free services and data repositories. Steps have also been taken to optimise the institutional repository to take some small datasets.
- *Open Environment* – we continue to raise the profile of our research and researchers through:
    - Increased use of blogs and social media and regular inter-campus engagement activity
    - Wider dissemination of ongoing activity, through face-to-face, online and streamed research lectures and conferences e.g. Open Science talks, the ILD Public Lecture Series, Inaugural Lectures, Online Debates and Scholar in the Spotlight.
- *Responsible use of metrics* - through targeted investment we have developed our own [Statement on the Responsible Use of Metrics](#). All research assessment using metrics at the University (for example: for Academic Promotions; Recruitment; Appraisal; and REF preparations) are:

- **Linked to expert judgement:** Criteria and/or indicators used are chosen based on the purpose of the assessment and quantitative indicators are used to inform judgements and challenge preconceptions (but not to replace expert judgement).
- **Supported by reliable data:** quantitative data sources are selected for their reliability (i.e. accuracy, quality, transparency and coverage).
- **Tailored:** Disciplinary differences in research inputs, processes and outputs are taken into account with disciplinary biases in indicators used explicitly acknowledged and addressed.
- **Responsive:** Those responsible for research assessment recognise and anticipate the potential effects of indicators, and are prepared to update them.
- **Transparent:** Assessment criteria and quantitative data must be transparent and available (on request) to those being assessed.

These developments have laid the foundations for vibrant research activity which will be at the heart of our new ten-year strategy.

**Future strategic goals**

The University is currently undertaking a Strategic Refresh. Central to this will be the further enhancement of our research environment to deliver impact, promote international excellence and foster multidisciplinary collaboration through externally facing Institutes with missions strongly aligned to external drivers such as the UN Sustainable Development Goals, the UK Government Industrial Strategy and the EU Five Missions programme. The strategy will have clear expectations on the impact our research should have in our communities.

Our academic culture will be developed in a way that draws on a central tenet of the previous REF period – that engagement in some form of research and associated knowledge exchange activity is considered a core responsibility for an increasing number of academic staff, and this is supported and recognised through our staff talent management framework (spanning recruitment to promotion procedures), management systems and financial models.

We will also aim to maximise the impact of research in our educational provision by supporting and encouraging pedagogic and practice-based research as well as student participation in research projects so that our research truly informs our taught curricula and inspires our students.

Targeted, inward investment in research facilities and support services, coupled with enhanced training provision, will enable those staff and student communities engaged in meaningful research to grow in size and confidence and to become ever more creative and ambitious. In particular, we aim to instil in our postgraduate and early career research community the skills and confidence to succeed as independent researchers, facilitated with an emphasis on equality, diversity and inclusivity so that their talents are truly encouraged and developed.

**3. People**

**Staffing Strategy**

The University has changed significantly over the REF period, partly due to a People Strategy (2016) which aimed to recruit and develop colleagues who inspire society through the discovery, application and dissemination of knowledge.

|  | % staff with doctorate | Contract Type (% permanent) | Gender (%F) | Ethnicity (% BAME) | % Full-time equivalent |
|---|---|---|---|---|---|
| 2014 (all Uni staff) | 43 | 91.5 | 43.7 | 24.1 | 81.9 |
| 2021 (all Uni staff) | 45 | 92.4 | 48.1 | 40.2 | 84.7 |
| 2021 (SRR cohort) | 94 | 93.2 | 43.0 | 48.0 | 89.8 |

In comparing academic staff in 2014 and the REF2021 (SRR) cohort, it is possible to see;

- the researcher population (SRR cohort) in 2021 has been consolidated with an increase in the number of permanent, full-time staff,
- that the ethnic diversity of the SRR cohort is greater than the wider academic population
- that the ethnic diversity of the SRR cohort far outstrips both the UK-wide academic population (BAME 18%) and the UK population at large (BAME 17%).

We know that we have some way to go to fully reflect the engagement of women in research and most notably in senior roles (women are under-represented in the SRR cohort (43.0%) compared to the entire academic population at Greenwich (48.1%) and the overall population (50.6%)). Actions to redress this imbalance are reflected in our new strategy.

The People Strategy is underpinned by a set of connected aspirations that support and recognise the contribution staff make. We aim to:

- Develop an inclusive community of scholars and professionals with a commitment to a common purpose, supported to achieve individual and organisational goals, facilitated through a series networks including a Postgraduate/Early Career Researchers (ECR) forum
- Encourage support for, and work with, LGBT+, Disability, BAME and Women's Staff Networks and Women's Professoriate Group
- Ensure that all employees understand our objectives with clarity about the expectations of roles and performance
- Provide feedback, coaching, mentoring, leadership, management and skills development
- Fairly reward good performance and challenge underperformance.

Central to our support for academic staff is the Academic Framework, with four connected sets of activities to enable higher staff performance, in line with our values and behaviours;

- Three distinct **Career Pathways** (Research; Knowledge Exchange and Enterprise; Teaching and Learning) that establish the interdependent expectations between the University and academic staff, providing a consistent, equitable mechanism for assessing and rewarding contributions to academic life
- **Appraisal -** providing an opportunity to discuss and agree how expectations are met and career aspirations are supported
- **Balanced Academic Workload (BAW) -** capturing the relative effort that members of academic staff are committing to different academic activities
- **Reward and Recognition -** recognising academic excellence and contribution to the University's aims

Within this framework, 158 colleagues have been promoted since 2017 with representation on a par with the university staffing diversity composition, *e.g.* female (48%) and BAME (30%). 48% of these have been via the research career pathway.

This Academic Framework also underpins the Code of Practice (REF) that identifies those academics with significant responsibility for research (SRR).

We have invested significantly in the researcher population, ensuring all new appointees are either research-active or aspire to activity. There has been a significant focus on identifying talent in the early stages of their career. The EDI analysis of those identified with SRR, compared to the wider academic population shows:

- the SRR population has a peak profile of 35-44 whereas the non-SRR population merely increases with age, reflective of non-research-active programme-leadership and management cohorts;
- the SRR population is only slightly more male dominant than the University-wide population (57% vs 52%);
- the SRR population has a greater percentage of full-time contracts (by 5%) compared with the wider University population, reflecting the cohort of lecturing staff on fractional contracts, and;
- the SRR cohort is significantly more BAME rich (by 8%) compared with the wider University population, and with an equal BAME – white composition within the SRR cohort.

*Career Development for Researchers*

Central to the career development of the researcher-staff base is the activity of the Research and Enterprise Training Institute (RETI).

RETI was created in 2016 and has developed a broad training provision for PGR students and staff. The training is delivered by both internal and external experts through a blended approach and has been instrumental in developing the expertise and confidence of the researcher community through:

- Implementation of the Researcher Development Concordat
- Vitae Researcher Development Framework (RDF)
- EU HR Excellence in Research Award
- Use of survey feedback e.g. Postgraduate Research Experience Survey (PRES) & Culture, Employment and Development in Academic Research Survey (CEDARS) 2020 to inform developmental activity.  In the PRES, within the seven core areas, the University scored (definitely or mostly agreed) >80% in research skills, responsibilities, professional development, progression and supervision. Moreover, of the 103 participating institutions, the University ranked 9th for research skills, 20th for responsibilities, 22nd for professional development and 23rd for progression.
- Adapting provision to better align with the protected characteristic distribution of our PGRs, where the data showed marginal higher females vs males (which is higher than the UKRI rate) with a fairly even distribution of BAME and white PGRs.

Additional support is provided for our PGR community including:

- A training programme covering research design, academic writing, publishing, qualitative and quantitative research skills, intellectual property, ethics, project management, literature review, research integrity and viva preparation. Teaching-skills training is also provided, along with sessions on mental health and wellbeing which include stress management, developing resilience and overcoming procrastination.
- RETI manages the training and development of supervisors and delivers a portfolio of essential and optional training in parallel to PGR training, as well as guidance, advice and the provision of regulatory and procedural documentation when required.
- RETI also performs a pastoral role which starts at PGR student (and staff) induction and highlights information and support available.
- RETI support extends into faculty and departmental events. In conjunction with the Faculty Research Degrees Committees (a key part of the PGR student and supervisor journey) RETI oversees the quality and standards of research degrees by ensuring

research proposals, transfer assessment panels, examination panels and supervisory teams meet required the standards set out by QAA.

**Equality & Diversity**

The University continues to significantly reshape its researcher pool. Like many institutions, we have challenges to address in order to ensure our researchers reflect the communities they serve.

The Equality, Diversity and Inclusion Strategy 2019-2022 is a declaration of our commitment to place equality, diversity and inclusion at the heart of everything we do. A clear Equality and Diversity Policy Statement reinforces expectations of the values and behaviours that all members of our community should exhibit. The policy expects staff and students to:

- Treat others with respect at all times and promote an environment free of all kinds of bullying and harassment
- Actively discourage discriminatory behaviours and, as a signatory of the Big Promise on Race Equality, to have zero-tolerance towards racism; to actively sponsor ethnic minority (especially black) talent in the workplace, publish the ethnicity pay gap each year and set targets with an action plan to meet them
- Participate in training and learning opportunities that enable them to adopt best practice and improve inclusion.

Staff are required to complete the 'Equality and Diversity Essentials' course on joining (and every three years thereafter) and all managers are required to complete the 'Managing Diversity'.

In support of our EDI objectives, we have signed up and/or are members of a number of accreditations, charters and programmes, including:

- Disability Confident
- HR Excellence in Research
- Stonewall Diversity Champions and the Stonewall Workplace Equality Index. The University achieved top-100 status three times during the REF period and the LGBT+ Staff Network was named Staff Employee Network in 2017.
- Athena Swan (commitment to support reaccreditation for commencing in 2021)
- Support for the Race Equality Charter in 2022
- Our Aurora Programme - a leadership development programme organised by Advance HE for all people who identify as a woman.  We are also now a member of the Women's Higher Education Network (WHEN), which will provide further support for women's development and advancement in HE.

In 2018 we launched our first Health and Wellbeing Strategy (2018-22) with Greenwich Students Union, which included:

- Continuation of the Time to Change Pledge: we are committed to removing the stigma of mental health and to highlight and develop new initiatives so staff and students can achieve their full potential
- The University is completing the Mentally Healthy University programme with the national charity MIND, funded by Goldman Sachs Gives. This is a call to action for employers to adopt the recommendations of the governments independent review to support mental health (UUK - Step change).

This work is underpinned by the implementation of a new Talent Management System to ensure a best-in-class solution for enabling transparent development and career progression and diversity data capture.

Additionally, we have established a number of Diversity Groups & Networks, including:

- LGBT+ and allies community
- Disability Staff Network
- BAME Staff Network
- Women Staff Network
- Women's Professoriate Group
- Diversity Interest Group
- Mental Health and Wellbeing Champions Network

Commensurate with obligations under the Equality Act 2020 and Equality Act 2010 (Specific Duties and Public Authorities) Regulation 2017 to equal pay legislation, the University uses the Higher Education Role Analysis (HERA) scheme to assess the value of roles, which are mapped to our grading and pay structure, shaped by the Joint Negotiating Committee for Higher Education Staff pay scale.

The overall profile of staff included in the most recent Gender Pay Gap Report (March 2018) including hourly paid staff, equates to 44.5% Male and 55.5% Female, which show that the overall mean (10.4%) and median (13.5%) gender pay gaps have decreased by 2.6% and 4.1% respectively;
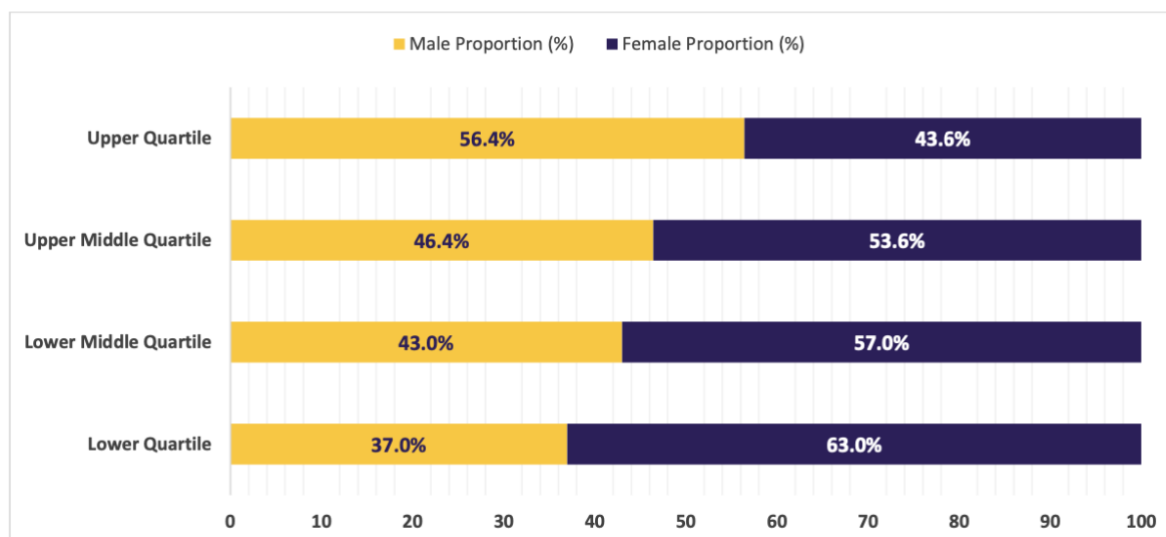


*Figure 1: Proportion of male and female full-pay equivalent employees in the lower, lower middle, upper middle and upper quartile pay bands (%).*

Early analysis of these data has suggested that the researcher population is contributing to the gender pay gap due to the greater percentage of senior male researchers, compounded by the potential for early career female researchers to be disadvantaged in their career and promotion prospects, in part due to caring responsibilities. In order to address this the academic promotion process is placing greater emphasis on personal circumstances in assessing research achievement, in line with REF guidance, and all promotion panels are constituted to reflect gender balance.

## 4. Income, infrastructure and facilities

The University is well-appointed to engage in world-leading research, *e.g.* 400 MHz & 500 MHz solid and liquid NMR spectrometers; triple, quad and QTF mass spectrometry for bioscience, environmental and pharmaceutical science studies; triple quad ICP-MS for optimal metal interference removal in complex food stuffs and environmental samples; tropical glasshouse facilities; insectaries; 3D tracking wind-tunnel; a food-grade algal pilot facility fitted with a suite of photobioreactors of up to 400L and a 3.5 m$^2$ mini-raceways; a state-of-the-art, multi-disciplinary

(£2.4M) healthcare Skills and Simulation Centre that combines realistic healthcare environments, virtual and augmented reality with life-like mannequins and replica clinical equipment and video linking with partner healthcare trusts; centrally high-performance computing facilities with 48 compute nodes (20 CPU cores @2.4 GHz) and within Faculty, 5 GPU nodes; 8 NVIDIA™ GTX 1080 Ti GPUs, 32 Intel™ Xeon CPUs and one NVidia V100-powered DGX-1 workstation benchmarked at 500 TFlops and an electroencephalogram (EEG) system with a 64 ch Neuvo Amplifier with SynAmps RT System Unit.

Inward investment follows centrally-driven strategies, deployed to maximise the impact at Faculty level. Over the REF period, QR+HEIF investment has amounted to £20M and £12.3M respectively. A significant portion of these funds are disbursed to Faculties based on the annual benchmarking process *via* an algorithm driven by the cumulative volume and quality of research outputs over the period and their impact. These allocations are managed at Faculty-level through a mixture of onward allocation to research groups or through open competition in order to bring a specific Faculty context. A proportion of these funds are used to pump-prime research areas *via* targeted funding streams;

- Seedling Fund (68 awards, £235K)
- Proof-of-Concept Funding (33 awards, £453K)
- Impact Development Fund (5% total HEIF, value/number as necessary)

In line with this ethos, RCIF investment (£2.13M) over the period has also mapped to a volume/quality indicator and has been broadly distributed as:

| Unit | Investment / £K |
|------|-----------------|
| Engineering | 543 |
| Allied Health Professions | 232 |
| Agriculture | 677 |
| Chemistry | 583 |
| Business, English, Art & Design | 95 |

The early-career researcher community is strongly supported through a number of specific initiatives designed to lead to profile-raising activity. Over the REF period, 66 awards have been made, totalling £94K, spread over all Faculties;

- ECR Research Excellence Award
- ECR Public Engagement and Communication Award
- ECR Travel Bursary Scheme

Facilities to support research have also been enhanced:

- Research hubs have been created on each of the three campuses to co-locate support structures for researchers, bringing advice close to those who need it
- dedicated research student study spaces in our libraries, with fortnightly research cafe events and access to Academic Skills Hub
- Significant expansion in electronic collections including new e-journals, databases/monographs, including Sage Research Methods Online.
- Enhanced, user-orientated governance group providing strategic and operational direction for an expanded High-Performance Computing (HPC) service, including dedicated user/application support for all researchers to ensure maximum realisation of HPC potential.

Recently, we have started to make better use of our estate as 'living-laboratories':

- The research hub at Greenwich is exploring the use of biophilia to improve the working environment in terms of reducing atmospheric contaminants and promoting well-being, and its demonstration into partner groups
- Stockwell Street roof gardens have been divided into two regions; "intensive green roofs" used by landscape architecture students and staff for teaching and research and the "extensive green roofs", with a shallower depth of soil and solar panels, used as area for testing different seed mixtures.

Finally, reiterating the ecosystem evolution, there has been significant investment in support staff, activity (peer review, horizon scanning, personal research plans) and systems (research information and analysis) within the central Research Development Services that facilitates research.