

Institution: Durham University

1. Institutional context and mission

1.1 Context and mission

Durham is a research-intensive, collegiate university in the North East of England. All academic units are based in Durham City, with several humanities departments within the World Heritage Site (Theology, Music and the Palace Green Library) and Science and Social Science primarily on a campus on the south side. Durham currently ranks seventh in the UK Complete University Guide and 86th in the QS world ranking. It is a member of the Russell Group, Association of Commonwealth Universities, Coimbra Group of European Universities and the global Matariki Network of research-intensive universities.

Durham is strongly rooted in its local region and has established strategic research partnerships with organisations such as Procter and Gamble, Durham County Council, the Centre for Process Innovation (which is part of the 'High Value Manufacturing Catapult') and The Bowes Museum (in Barnard Castle). These reflect both the region's industrial and cultural heritage and the challenges of social and economic renewal in a part of the UK with many areas of deprivation.

Durham is a member of the N8 Research Partnership (a collaboration of eight research-intensive universities in the North of England) and works closely with the four other local universities to support research, education, well-being and economic development in the North East.

Since 2014, Durham's research and impact capability has grown, thanks to strategic investments in people, partnerships and infrastructure:

- Durham has embarked on a £750m capital programme which has already delivered new estate for Physics, Mathematical Sciences and Computer Science and a shared Teaching and Learning Centre, as well as extensions for the Library and Law School.
- New policies and initiatives have been implemented to attract, mentor, retain and reward the best people in research, education and the professional services.
- An Equality Impact Assessment (EIA) Framework ensures that every policy, practice and project is reviewed through an EDI lens at inception and key interim points.
- New business-facing activities contribute to the local and national economy, business growth and job creation. Durham leads the Northern Accelerator project which is building an innovation ecosystem in the North East through the establishment of a £75m venture fund to support the creation of new companies.
- Durham leads the Intensive Industrial Innovation Programme (IIIP) a North East initiative to place PhD students in local small and medium-sized enterprises (SMEs).

Over the REF period, there has been growth in both the numbers of students on taught courses (from 15,700 in 2013/14 to 17,525 in 2018/19) and academic staff (1135 to 1220); the number of post-graduate research students (1500) and research staff (440) has remained stable. Durham has sought to develop critical mass in all its areas of research activity, with strategic investment in computer science, applied mathematics, quantitative social psychology, and sport sciences.

1.2 Research organisation

Durham is organised into 26 academic departments across four faculties: Arts & Humanities, Social Science & Health, Science, and (since 2019) Business. The 26 departments map onto 24 UoAs across all four main REF panels. Since REF2014, four new Departments have been

created in order to give greater strategic focus to key disciplines, with Computer Science splitting from Engineering and the School of Applied Social Science dividing into Departments of Sociology and Sport & Exercise Sciences. Meanwhile, the School of Medicine, Pharmacy and Health was dissolved, with pre-medical training and pharmacy relocating to Newcastle University and health research redistributed across Durham Departments (where much of the health research already took place) and connected by a new Health Strategy. Outside of the faculty structure, ten cross-disciplinary University Research Institutes (URI) drive interdisciplinary research (IDR).

1.3 University Strategy

The University Strategy (2017–27) gives equal weight to Research, Education and the Wider Student Experience. Durham's values (*inspiring, challenging, innovative, responsible and enabling*) underpin all three pillars and are reflected in the Research & Engagement Strategy (see §2.1) and the subsidiary research strategies and activities of Departments and URIs. The strategy aims to strengthen Durham as an institution in which world-leading and world-changing research and engagement is created and sustained across all areas.

2. Institutional Research and Impact Strategy

2.1 Research and Engagement (R&E) Strategy

The goal of Durham's R&E Strategy is 'to strengthen Durham University as an institution in which world-leading and world-changing research and engagement is created and sustained across all core academic units'. The R&E Strategy sets out four Strategic Aims:

- (i) To deliver a critical mass of world-leading research outputs within and across all core academic units in the University.
- (ii) To produce and disseminate research that has a positive impact on global, national and regional challenges and which benefits culture, society, health, the economy and the physical environment.
- (iii) To build sustainable funding and infrastructure platforms for the delivery of world-leading research outputs and impact.
- (iv) To enrich the academic lives and prospects of our faculty and students through offering a rewarding research environment and an exceptional research-led learning experience.

2.2 Support for Interdisciplinary Research

Durham highly values IDR and supports it primarily through Institutes and Centres. The Institute of Advanced Study (IAS) was founded in 2006 to bring together researchers from all faculties to develop new interdisciplinary perspectives on complex problems. The IAS developed guidelines on evaluating IDR (2015) and Durham's Pro-Vice Chancellor (Research) was a member of the British Academy Interdisciplinarity Working Group that produced the 2016 report on *Crossing Paths: Interdisciplinary Institutions, Careers, Education and Applications*. The IAS ran the Durham International Fellowships for Research and Enterprise under the MSCA COFUND programme that brought 140 junior research fellows and over 200 senior research fellows to Durham between 2011 and 2019.

Faculty	Department / UoA	Biophysical Sciences Institute	Durham Energy Institute	Institute for Computational Cosmology	Institute for Particle Physics Phenomenology	Institute for Data Science	Institute for Advanced Study	Institute for Hazard, Risk and Resilience	Institute of Medieval and Early Modern Studies	Wolfson Research Institute for Health and Wellbeing	Institute for Medical Humanities
Science	4-Psychology	✓	✓			✓	✓	✓		✓	✓
	5-Biosciences	✓	✓				✓			✓	✓
	7-Earth Sciences		✓			✓	✓	✓	✓		
	8-Chemistry	✓	✓				✓		✓	✓	
	9-Physics	✓	✓	✓	✓	✓	✓		✓		
	10-Mathematical Sciences		✓	✓	✓	✓	✓			✓	
	11-Computer Science	✓	✓			✓	✓		✓	✓	
	12-Engineering	✓	✓			✓	✓	✓		✓	
Social Sciences and Health	14-Geography		✓			✓	✓	✓		✓	✓
	15-Archaeology		✓			✓	✓	✓	✓	✓	
	18-Law School		✓				✓	✓		✓	
	19-Government & International Affairs		✓				✓	✓			
	21-Sociology						✓			✓	✓
	22-Anthropology		✓			✓	✓	✓	✓	✓	✓
	23-Education					✓	✓			✓	✓
	24-Sport and Exercise Sciences						✓			✓	✓
Business	17-Business and Management Studies		✓			✓	✓	✓		✓	
Arts and Humanities	26-Modern Languages and Cultures		✓				✓		✓		✓
	27-English Studies					✓	✓		✓	✓	✓
	28-History		✓				✓		✓		✓
	29-Classics and Ancient History					✓	✓		✓		✓
	30-Philosophy		✓			✓	✓		✓	✓	
	31-Theology and Religion		✓			✓	✓		✓	✓	✓
	33-Music					✓	✓		✓		✓

Table 1: UoAs/Departments, Faculties & Institutes

Ten URIs (see Table 1) support IDR in thematic areas, including the Institute for Medical Humanities (IMH) and the Institute for Data Science which were founded in the assessment period. URIs

- connect researchers across all disciplines with an interest in a common theme;
- develop partnerships with external stakeholders;
- coordinate large research programmes;
- organise conferences;

- develop research impact;
- train researchers.

The University provided £1.5m in staff and project funding to the Institutes in 2018/19. In addition, 78 Research Centres support clusters of researchers across departments in areas as diverse as Visual Arts & Culture, Death and Life Studies, Ethical Finance, International Borders, Chinese Law & Policy and Crop Improvement Technology. Many URIs and Centres, e.g. Durham Centre for Research Methods, develop cutting-edge methodologies, which support intra-faculty IDR.

2.3 Research Ethics, Integrity and Responsible Innovation (RI)

The way in which Durham supports ethics, integrity and RI has been transformed in the REF period. Ethical review of research proposals for non-animal / non-NHS projects is devolved to each Department and Durham operates an Animal Welfare Ethical Review Board and a Human Tissue Board for regulated research projects. Ethics Committee has institution-wide oversight and is responsible for statutory reporting.

Durham supports the principles of the Concordat to Support Research Integrity through its Research Integrity Policy, Code of Good Conduct, Research Integrity toolkit and training programme. The Concordat Implementation Group (CIG) oversees Durham's performance against the expectations of the Concordats on Research Integrity and Career Development of Researchers, with a focus on driving excellence rather than compliance.

Durham researchers developed the AREA (Anticipate, Reflect, Engage and Act) framework for RI, which was subsequently adopted by RCUK. Durham seeks to support a reflective approach to ethics, integrity and RI, based on excellence and continual improvement. For example, in the Soft Matter Centre for Doctoral Training (SOFI), RI is embedded in all the training materials and is an intrinsic part of every research project.

Durham has signed the San Francisco Declaration on Research Assessment (DORA), approved a Responsible use of Metrics Statement, based on the Leiden Principles, and has policies implementing these principles across the institution. Progress against the policy is supported by a Research Metrics Group, which reports to Research Committee.

2.4 Open research, open access and open data

In the [Leiden Rankings](#) 2019, Durham was ranked second in the UK and fourth in the world in the measure of percentage of publications which have been made available with Open Access (OA). The University Library manages the OA repositories (Durham Research Online and Durham eTheses), providing access to over 35,000 Durham-authored outputs. The Research Data Service supports researchers with data management and open data activities. Training is available on the benefits and opportunities of OA publishing and on funders' compliance requirements. There are simple online processes to request funds for article processing charges where external funding is unavailable.

2.5 Supporting and delivering research impact

Impact is an integral part of research excellence and runs through the whole of the R&E Strategy. Each Department has an Impact Officer supporting the Director of Research; impact is a criterion in the evaluation of promotion applications (see §3); and excellence in impact is recognised in annual Impact Awards.

To sustain support for impact, we regularly

- (1) review our support structures and internal funding to ensure our policy and practice maps onto stakeholder and researcher needs;

- (2) update and revise our Impact Strategy to sustain impact-related research and to embed a culture of delivering impact as part of our research wherever possible;
- (3) review our approach to business development to ensure work in this area supports delivery of impact;
- (4) review grant applications for the delivery of impact and the inclusion of associated costs.

The Partnerships & Engagement team in Research & Innovation Services (RIS) (see §4.4) supports research impact via specialist teams operating across three 'impact domains' – Commercial & Economic, Public Policy and Culture & Heritage – recognising their distinctive training needs, stakeholder networks and operating models. RIS also manages ca. £2m p.a. of impact funding from schemes such as the STFC, EPSRC and ESRC Impact Accelerator Accounts and MRC Confidence-in-Concept; together with ca. £250k p.a. of internal impact funding (including for co-creation of proposals with stakeholders).

2.5.1 Culture and Heritage

The University's cultural strategy sets out to engage people locally, nationally, and internationally with new research, drawing on its own distinctive cultural facilities, including the World Heritage Site and the Oriental Museum, and building on strong partnerships in the arts, culture and heritage sectors.

The Palace Green Library includes high-quality exhibition space that complements display galleries within the University's museums. In addition to major exhibitions, such as the Magna Carta in 2016, the galleries showcase Durham research including 'Catch your Breath', an exhibition based on the Wellcome-Trust-funded 'Life of Breath' project; 'Bodies of Evidence', based on the 'Scottish Soldiers' project (which arose from archaeological excavations during the Palace Green Library building project); and 'Scaling the Heights', which combined Leverhulme Trust-funded research on mountaineering literature with new works by regional artists.

Durham has established partnerships with cultural organisations in the region, including Durham Cathedral, The Bowes Museum, and The Auckland Project. Its relationship with The Auckland Project helped secure £1.6m of funding, including £600k from the Santander Group (the largest single donation made to a UK university), to establish The Zurbarán Centre for Spanish and Latin American Art. The Centre has organised exhibitions locally, nationally and internationally that share Durham's research and provide opportunities for local people to engage with an under-recognised aspect of their cultural heritage.

2.5.2 Public Policy

The Public Policy Hub, established in 2014, assists and guides academics to develop opportunities for knowledge exchange with policy-makers. The Policy Hub manages relationships with national and local government and the four UK legislatures, and has supported an increase in the staff and student secondments into government departments (including the Department for Work and Pensions, Cabinet Office, and the Department for Education) and a total of five academic fellowships with the Parliamentary Office of Science and Technology (UK Parliament) and the Scottish Parliament Information Centre. In 2019 two Director roles were introduced for Policy and Public Affairs and a Durham University London Office established. This has strengthened the University's presence in Whitehall and Westminster and provided extra support for engaging with policymakers on research and Higher Education policy matters.

Policy impact in healthcare is supported by the Wolfson Research Institute for Health and Well-Being and the IMH – the first such institute in the UK, established in 2018 with support from the Wellcome Trust. The IMH aims to enhance understanding of the breadth and depth of human experience in relation to health and healthcare. Projects have included 'Hearing the Voice',

Winner of the 2020 AHRC/Wellcome Medical Humanities Best Research award, which challenges the dominant perception of voice-hearing as a meaningless symptom of pathology, and 'Life of Breath' which engaged doctors, respiratory patients, creative artists and the wider public to change thinking about breath and breathlessness.

Durham has a strong track record of delivering development-related research with GCRF, Newton and DfID funding, including a £7.8m award for a Global Network to tackle Neglected Tropical Diseases. In 2018, Durham established a GCRF CDT to support a cohort of 25 postgraduate students from lower and middle-income countries to work on projects to build research capacity in developing countries.

2.5.3 Commercial and Economic

Durham University is a key element of the local innovation ecosystem. Its spin-out performance is strong relative to sector benchmarks, and spin-outs underpin seven impact case studies. Durham leads the Northern Accelerator project, in collaboration with Newcastle, Northumbria and Sunderland Universities, which received £4.9m in 2016 from the Connecting Capability Fund.

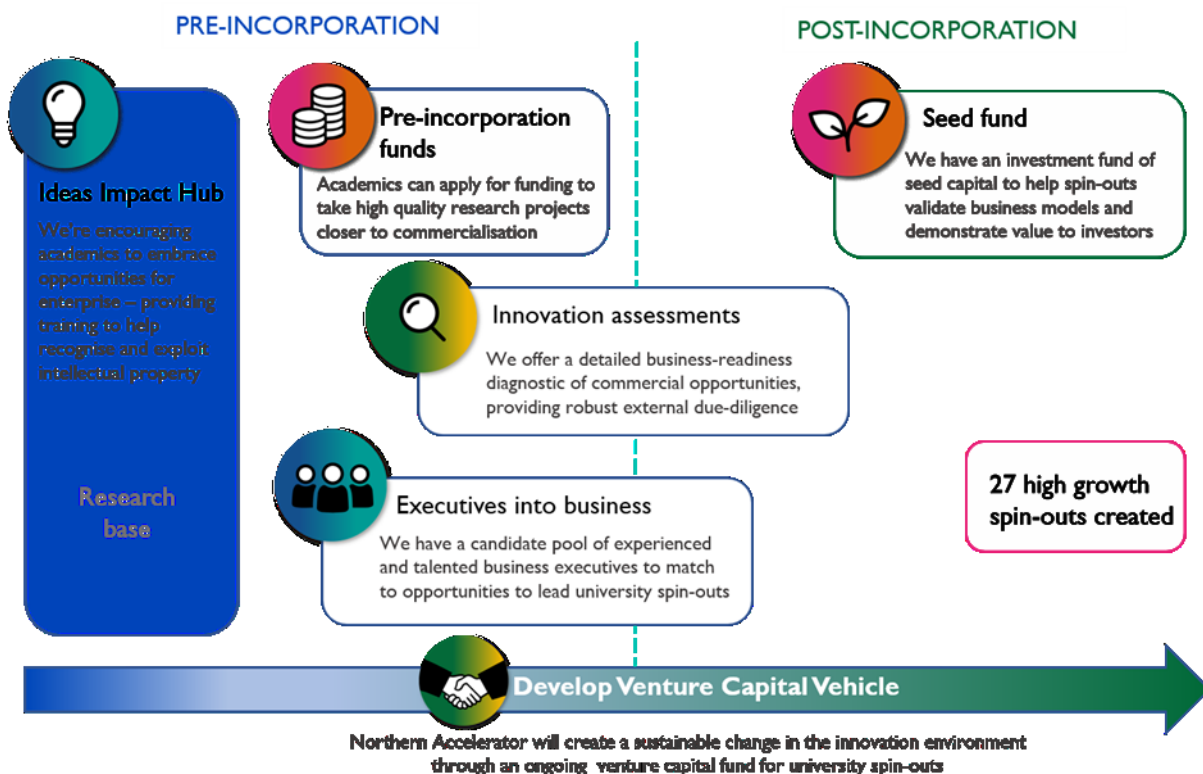


Figure 1: Northern Accelerator Innovation Ecosystem

Northern Accelerator has built a strong innovation ecosystem around the region’s University spinouts and has placed 23 CEOs in spin-outs, created 28 businesses and allocated £2.3m of pre-incorporation funding to help 50 research projects move closer to commercialisation. The ‘Venture North’ investment fund (c.£75m) was established to support future spin-out activity.

Durham is developing the ‘NetPark’ University Enterprise Zone with £1.5m of Research England funding to provide an incubator for businesses and a locus for knowledge exchange between business and the University. Durham leads the IIIP, in collaboration with Teesside, Newcastle and Northumbria Universities. IIIP has placed over 50 PhD students in local SMEs, supporting the development of new products and processes and raising their capacity for research and innovation. Durham is also a founding partner in Fuse (Centre for Translational Research in

Public Health), which has brought £200m of funding into the region, and a partner in the NIHR Applied Research Collaboration of the North East and North Cumbria.

The Water Hub is a Durham-led collaboration with Durham County Council, Northumbrian Water and the Environment Agency which enables local businesses to work with academics to solve industrial problems and access new market opportunities in the water sector. COAST and Spotlight are two collaborations with CPI that use university expertise and laboratory facilities to assist the development of new products in nanomaterials (COAST) and healthcare photonics (Spotlight).

Future initiatives to support economic development include a National Centre for Surfaces and Interfaces, for which funding has been obtained from the North East LEP to develop a business case; and Net Zero North, a £300m submission from the N8 universities to the 2020 Comprehensive Spending Review. Durham is leading on one of three strands within the proposal, on sustainable hydrogen.

Strategic Partnerships play an important role in our approach to supporting local economic growth. We partner **Durham County Council** on the development of both the NetPark (with potential for a Space and Satellite Innovation Centre) and Aykley Heads sites (focussed around data and energy). We have had multiple collaborative projects with the **Centre for Process Innovation** (part of the High Value Manufacturing Catapult) and supported the bid to site the National Formulation Centre at NetPark in 2015. **Procter and Gamble** have one of the largest research centres in the North East and our partnership is recognised by the company as a global exemplar of University business strategic partnership with strong research programmes in the areas of surfaces and materials, biosciences and data. They provide ~£1m p.a. of funding and are a partner on several strategic economic development programmes.

3. People

Attracting, mentoring, retaining and rewarding the best people in research, education and professional services is central to Durham University's vision of delivering world-class R&E. In the REF period, Durham's People Strategy has delivered significant improvements to how Durham rewards and values its staff.

The University has three strategic objectives relating to EDI among academic staff, focusing on gender, ethnicity and disability. Although we benchmark median position, our approach is to demonstrate consistent improvement, through the policies mentioned below.

3.1 Recruitment

In 2017, Durham created four academic career pathways (academic, research, teaching and practice), with each pathway classified into Assistant Professor, Associate Professor and Professor. Clear benchmark criteria are available for each pathway ensuring members of staff can gauge their performance against defined expectations. For technical and professional staff, job families provide equality of grade across comparable roles and clear expectations on the skills and responsibilities required.

Staff involved in recruitment undertake training that includes recognising and mitigating unconscious bias. Academic recruitment is organised through an annual global campaign advertising over 100 positions each year. Each post has a search committee, including an Equality Champion, tasked with ensuring that the pool of candidates is representative of the diversity of the relevant academic discipline. The diversity of longlists and shortlists is compared with the applicant pool. All hires - from the application stage through to offers - are benchmarked against gender and BAME statistics published by the Russell Group.

Durham also supports initiatives such as Daphne Jackson Fellowships for scientists wishing to return to a research career after a break of two or more years.

These initiatives have led to an increase in the numbers of staff recruited and the share of staff body with declared protected characteristics, as shown by the figures below.

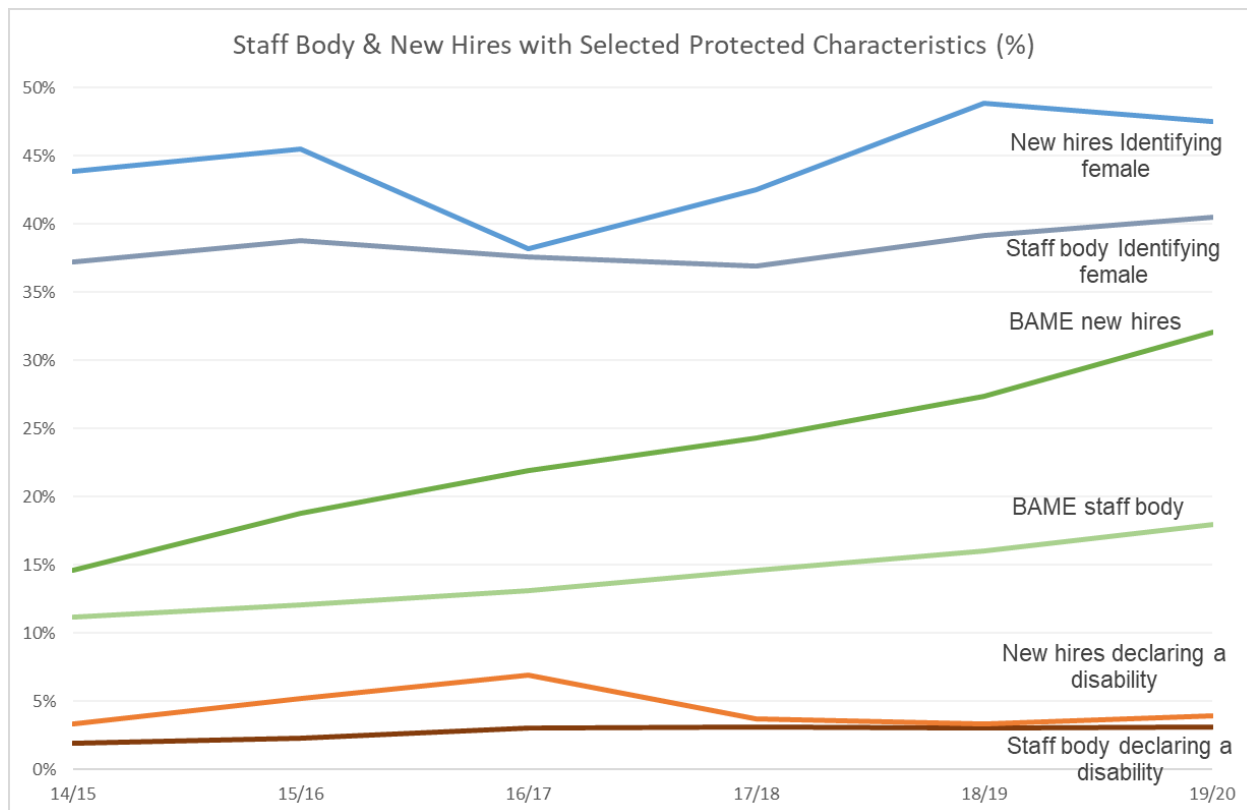


Figure 2: Protected characteristics - Academic faculty & hires

3.2 Progression

During the REF period, Durham implemented new progression and promotion processes for academic, teaching and research staff with a particular view to enhancing EDI. Every member of staff is reviewed annually by a Departmental Progression and Promotion Committee (DPPC) against benchmark criteria. Staff recommended for promotion by the DPPC are then reviewed by Faculty and University panels to ensure objectivity and consistency. The probation period for new academics has been reduced to one year with an increased focus on recruitment and mentoring, rather than probation targets, as a way of supporting excellence in early-career academics.

All staff are considered annually for a Discretionary Award, Exceptional Contribution Payment or Merit Award, removing potential bias from the previous self-nomination process. Executive Deans review nominations and compare the distribution of nominations against staff data. Annual Excellence Awards have been introduced for research, education and impact across different categories of staff, including academics, contract researchers and PhD students.

3.3 Supporting staff

The Academic Mentoring Policy was revised in 2019/20 with the aim of providing valuable mentoring relationships for all levels of staff separate to progression and promotion processes.

Research Leave is an integral part of Durham's research support system and allows all research-active academic staff one term committed exclusively to their research in every seven

worked. Research Leave can be used for a range of research and research-related activities, including the preparation of grant proposals and impact activities.

In 2017, the University instituted a research-incentive scheme for investigators on grants, equal to 10% of net overheads, which can be used for any research-related activities and carried forward from year-to-year. A further 10% is credited to a departmental research support fund. In addition, all research-active staff receive a research allowance of at least £1k p.a., which can also be carried forward or combined with other sources of income to fund more ambitious activities.

Leadership training courses are offered by the Organisational Development team in HR, while researcher development is coordinated by the Durham Centre for Academic Development (DCAD), which moved into a purpose-built training suite in the new Teaching and Learning Centre in 2019. DCAD offers training to researchers at all levels in the University, from PhD to Professor, including the Postgraduate Certificate in Academic Practice, the Leading Research Programme, the Academic Development Programme, and 'Newton's Apple' – an annual event that allows ECRs to engage with politicians and former leaders of Science Select Committees to help them understand how research can influence and shape public policy. University Library & Collections also offers a range of courses focussed on digital literacy, data management and the dissemination of research outputs.

Specific staff networks provide support and mentoring for BAME, LGBT+, female, and disabled research staff. To support academic staff returning to work following a period of maternity, paternity or adoption leave of six months or more, Durham offers an additional term of Research Leave. Durham is currently reviewing its family-friendly policies to enhance its culture of staff support.

Durham holds a Bronze institutional Athena SWAN Award. The gender equality action plan aims for all departments to achieve a Bronze, all Science departments to achieve Silver and for an institutional Silver award by December 2022. The Athena SWAN teams in each department are supported by a Faculty EDI officer and by the central EDI unit.

Durham signed the Race Equality Charter (REC) in March 2019 and will submit an institutional application for it by March 2022. Implementation of our REC Action Plan will help the University to increase BAME posts, studentships and representation across the University.

Durham is a Stonewall Diversity Champion and a Disability Confident Employer. Our recently concluded Commission on Respect and Values at Durham has identified a series of additional EDI actions to create a welcoming and inclusive culture for all staff and students.

The Health & Wellbeing Strategy (2020) supports the creation of healthy, supportive and sustainable learning, working and living environments for students, staff and visitors.

Durham University leads the EPSRC Inclusion Matters project: 'Northern Power: Making Physical Science a Domain for All in the North of England' in collaboration with eight Universities and eight industry partners. The project has identified seven challenges to enhancing the diversity of physical scientists in the region and has developed eight activities to address these challenges, including reciprocal mentoring, leadership development workshops and university/industry partnerships to share good practice.

3.4 Research Staff, Temporary Lecturers and Technical Staff

Durham signed the Concordat to Support the Career Development of Researchers and has held the HR Excellence in Research Award since 2011. A Research Staff Association (RSA) was established in 2014 to represent the c500 employees on research-only contracts, including ECRs on research fellowships. The RSA is represented on Research Committee. The CIG implements an action plan to enhance career development opportunities and monitors progress

against the biennial CEDARS surveys as well as internal metrics. In 2015, the University Executive Committee endorsed a series of initiatives that have, inter alia, led to specifically targeted training programmes, a mentoring programme, excellence awards, an annual conference, access to leadership development programmes, and changes to the Principal Investigator policy that have benefited research staff.

A clear promotion pathway for research staff has been developed with the University covering the uplift in salary where funding bodies will not do so. Durham is also working with N8 partners to enhance redeployment opportunities when contracts come to an end.

Temporary Lecturer positions – which are an important stepping stone to academic roles in some disciplines – are appointed with a minimum of a 12-month contract to allow research time over the summer. Fixed-term lecturers and research staff may complete training courses that extend beyond the end of their contracts so as not to restrict their development opportunities.

In 2018, Durham University signed up to the Technician Commitment, surveyed technical staff and developed an Action Plan to ensure visibility, recognition, career development and sustainability for technical staff across the University. The Action Plan was launched in November 2019 and is overseen by a Steering Group.

3.5 PhD students

The training landscape has evolved during the current REF period with a significant growth in the number of Doctoral Training Partnerships / Centres for Doctoral Training. The table below shows the key programmes Durham leads and partners on.

Lead	Partner
NINE (ESRC)	Northern Bridge (AHRC)
Iapetus (NERC)	NLD (BBSRC)
SOFI (EPSRC)	Fusion (EPSRC)
SOFI2 (EPSRC)	ReNU (EPSRC)
Oil & Gas (NERC)	Aura (EPSRC)
Visual Cultures (Leverhulme)	MosMed (EPSRC)
DurhamARCTIC (Leverhulme)	

Table 2: CDT/DTP Involvement & Leadership

Examples of innovation in training at Durham include the SOFI training programme built around industry-led case studies, media training at BBC studios and an accredited mini-MBA for PhD students. Relevant training programmes within the CDTs/DTPs are supplemented by a Postgraduate Researcher Development Programme, available to all PhD students. In 2017, 4773 students participated in courses (an average of about 3 courses per student) with an average satisfaction score of 4.5/5.

The Careers and Enterprise Centre tailors courses for post-graduate and post-doctoral researchers, with specialist advisors, including topics such as career planning and progression, careers outside academia and CV writing and interview preparation.

3.6 EDI and REF

Oversight of the EDI strategy at Durham is the responsibility of the Provost, who manages an EDI team supported by the Diversity and Equality Advisory Group. A key EDI initiative has been the development and implementation of the EIA Framework which was used in the development of our REF Code of Practice. EIAs have been undertaken at each stage of the 2021 submission to assess impact on protected characteristics including the identification of eligible staff and selection of outputs.

4. Income, infrastructure and facilities

4.1 Research Income

Research-related activity generates approximately one quarter of total University turnover. In 2018-19 this was £91m:

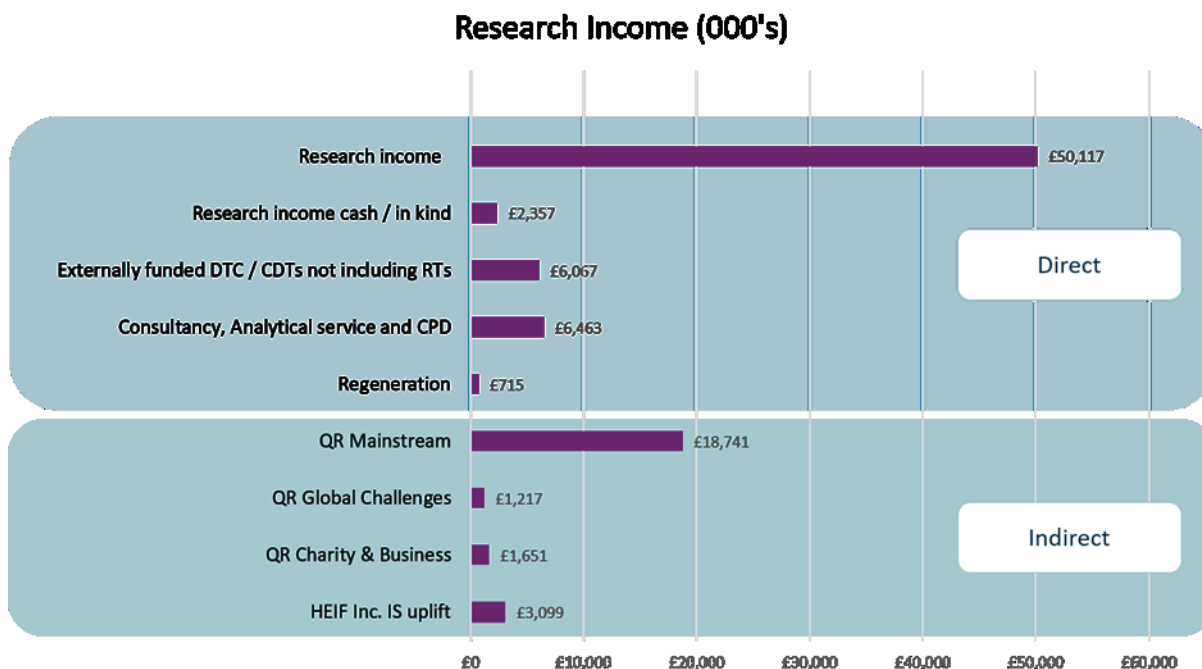


Figure 3: Research & Research related income

Research income increased from £43m in 2013-14 to £45m in 2019-20 (pre-Covid, this was forecast to be £55m, increasing from £50m in 2018-2019). The University has invested significant effort in development of strategic partnerships which has translated into increased numbers of large high value (£1m+) grant awards. These have increased from six in 2014 to 21 in 2019 and success rates have improved from 10% to 33%.

There has also been growth in collaborative / contract research from £13.6m in 2015 to £25.6m in 2020, plus a diversification of funders and a growth in the proportion of industry-funded activities.

Support for grant and impact development is provided via a Grant Seedcorn Fund (£1.75m over the assessment period). Joint seedcorn schemes support collaborations with Uppsala, Sweden; Tübingen, Germany; and FAPESP, Brazil.

Durham monitors grant applications, project starts, publications and award activities against EDI characteristics to check for bias and to evaluate improvement (e.g. for publications by BAME staff in the figure below). This data is provided to senior management and departments, and any outliers highlighted for investigation /action.

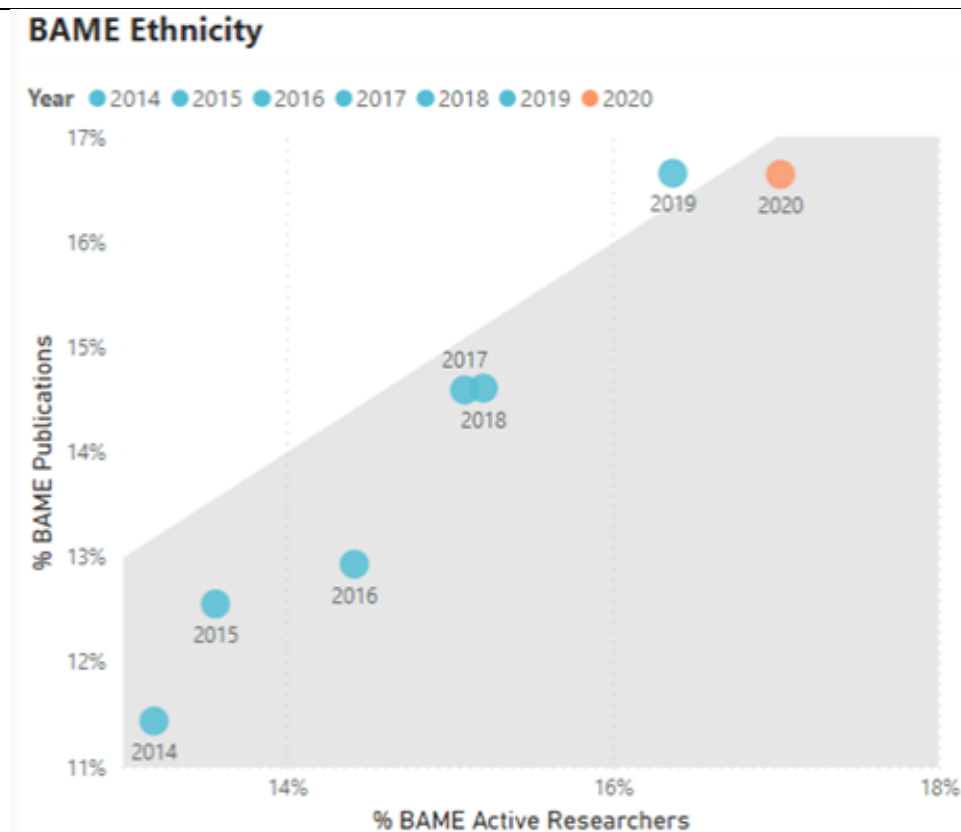


Figure 4: Publications by BAME staff

4.2 Physical estate

Durham has embarked on a £750m capital programme to upgrade existing buildings in Durham City and to build afresh. An Estates Review during 2016 led to an additional investment of £100m (over the 2017-27 strategy period) for maintenance of the academic estate, including a £15m refurbishment of the Chemistry Department. An ambitious Estates Masterplan has delivered extensions to the Library, the Law School (2017-18) and the Ogden Centre for Fundamental Physics (2017), as well as the Teaching and Learning Centre (2019) and a new Mathematical Sciences and Computer Science building, including a student enterprise hub (2020).

Major initiatives planned for the next five years include a new Arts & Humanities building for teaching and research, a new, larger Business School, and refurbishment of the current Business School building to co-locate researchers in the departments of Sociology, Government & International Affairs, and Sport & Exercise Sciences, to facilitate IDR. The longer term strategy includes plans for a multidisciplinary laboratory building and refurbishment of laboratories in departments to enhance research capacity.

4.3 Research Equipment and resources

In 2017, Durham adopted a new research equipment strategy based on the EPSRC taxonomy of research equipment needs and overseen by a Research Equipment Group. Each department has a rolling five-year plan for upgrading or replacing of underpinning equipment with business cases considered annually. The objective is to replace equipment before it fails or becomes uncompetitive for world-leading research. Each department also has a strategic equipment pipeline for new capabilities that can be matched to external funding opportunities. Strategic equipment bids are prioritised in an annual competition, with the expectation that applicants seek match-funding to leverage the University's investment where possible. University-funded

equipment is made available to researchers from all departments. Major facilities include electron microscopy, NMR, mass spectrometry, optical imaging and clean rooms. Research equipment is defined to include databases, archives, museum collections and special book collections to ensure that research in the Arts, Humanities and Social Sciences is also supported, with c£735k being spent in this area in 2018-19. Annual expenditure on research equipment is c£4m.

The University Library provides access to over 1.6 million printed books, 450,000 digital books, 20,000 journals and 35,000 OA Durham research outputs. Its purchasing budget for 2018-19 was £4.43m. Major acquisitions during the assessment period included the Telegraph Historical Archive 1855-2000 and the archive of John Lambton, 1st Earl of Durham.

Durham's outstanding collections include four that hold Arts Council England's prestigious 'designated status': Bishop Cosin's Library; Sudan Archive at Palace Green Library; the Egyptian and Chinese collections at the Oriental Museum. Durham established the Durham Residential Research Library which brings international scholars to work on materials in the collections of the University, Durham Cathedral and Ushaw College (the former Catholic seminary which now represents the most significant concentration of buildings, archives, books, artworks, and other artefacts related to the history of Catholicism in the North of England).

Advanced Research Computing (ARC) was established in 2017 with an investment of £3.5m, to provide hardware and software support for high performance computing. The Institute of Data Science was established in 2019 to support advanced data handling techniques to researchers across all four faculties, through both research and training programmes. Durham's general-purpose mid-range HPC system (Hamilton) serves around 300 users and is upgraded every three years. Hamilton 8 is a 15,360-core facility that was procured in 2020/21. Via ARC, Durham hosts a N8 funded (£3.2m), GPU-based Tier 2 HPC system. Durham part-hosts the STFC-funded DiRAC system (supporting cosmology and astronomy research) and the GridPP (supporting particle physics research).

Durham has invested substantially in its IT network and data storage over the past three years. 136.5km of new fibre cable have been laid and the core is configured such that 400 Gbps of data can be switched through it. Academics are provided with 1Tb of research data storage as standard and 30Tb on request, supported platforms include OneDrive and SharePoint, which are also made available to collaborators.

4.4 Research support

Since REF2014, Durham has invested heavily in its research support, which is now delivered centrally through Research and Innovation Services, across five specialist teams:

- *Research Operations*: responsible for research finance and contracts, award set-up and post-award support.
- *Research Development*: provides strategic grant application support focused on groups of academic disciplines, funders or themes, including development-related research and the UK Industrial Strategy.
- *Research Policy*: responsible for overall governance, ethics and reporting.
- *Partnerships and Engagement*: develops partnerships and supports engagement with a range of external stakeholders (including community, arts and cultural organisations, public policymakers and businesses).
- *Commercial and Economic Development*: comprises a Technology Transfer team that supports research commercialisation and an Economic Development Team to target support to the research base through major strategic relationships and projects.

Additional support for research is provided by the International Office, with bases in China and India, which facilitates links with overseas research partners and offers global engagement grants that help researchers to develop new international collaborations.

Following a review of departmental research support staff, all Departments now have the support of a Senior Research Administrator (SRA) who acts as first point of contact for research staff. The establishment in 2019 of the University-wide SRA network provides cross-institutional solutions to common problems whilst retaining discipline-specific knowledge.

Durham has invested significantly in processes and systems; in 2017 the University implemented a new grants management system Worktribe, which has improved efficiency in the administration, management of research grant activity and reporting.

Durham has been a seat of scholarship for over a millennium, and the University will see its bicentennial in 2032. In the next REF period it will continue to invest in its staff, infrastructure and research ecosystem to ensure it is ready to meet the upcoming social and civic challenges that will shape the world, and ensure its research continues to improve the everyday lives of citizens in the future.