# Institution: University of Sussex

#### 1. Context and mission

The first of the new universities of the 1960s, Sussex is imbued with a distinctive interdisciplinary tradition that underpins its research intensity and resulting global influence on scholarship, policy, and public life. Our research is defined by rigour, innovation, and collaboration; our mission, to effect meaningful change in the world.

Sussex occupies a single campus between Brighton & Hove – an expanding and economically diverse city – and the South Downs National Park. It is structured by ten Schools of Study: Education and Social Work; Engineering and Informatics; Global Studies; Law, Politics and Sociology; Life Sciences; Mathematical and Physical Sciences; Media, Arts and Humanities; Psychology; University of Sussex Business School; and the Brighton and Sussex Medical School (BSMS), a joint enterprise with the University of Brighton. We have 1,080 research-oriented staff from over 100 countries: the majority (c.740 FTE) contracted for research and education, whilst c.340 FTE staff are contracted exclusively for research. Our PGR cohort (c.1,685 completions since 2013) is similarly international in origins (54%) and outlook.

Research strategy is guided by an institutional framework – *Sussex 2025* – introduced by Vice-Chancellor and President Professor Adam Tickell in 2018, which developed and refined earlier practices and policies. The implementation of its Research with Impact pillar is led by the Pro-Vice-Chancellor (Research and Enterprise), supported by the Research and Enterprise Services (RES) division (c.70 FTE), headed by the Director of Research and Enterprise. Both sit on the University Research and Knowledge Exchange Committee alongside research Directors representing each School. Strategy for postgraduate research is led by a Doctoral School Board and Director of Doctoral Studies.

Sussex consistently achieves outstanding research performance and is increasingly securing larger and more diversified research funding, with our annual research income rising by nearly £11m over the past seven years to £40.1m in 2019-20. This sustained growth stems from our strategic commitment to intellectual diversity and renewal, to developing initiatives that harness cross-disciplinary excellence (such as our interdisciplinary Strategic Research Programmes), and to research that responds to the defining issues of our time, whether Brexit, climate change, or Covid-19.

The difference Sussex research makes in the world is most evident in our internationallyrecognised strengths. Sussex has been ranked first in the world for Development Studies every year between 2017 and 2021 (<u>QS World University Rankings</u>) and is renowned for research across numerous fields, including sustainability, science policy, genome biology, quantum physics, international relations, and psychology. <u>BSMS</u> is one of the UK's most successful joint medical schools; and the recent establishment of a combined <u>School of Media, Arts and</u> <u>Humanities</u> reflects our longstanding tradition of leading scholarship in those fields, and champions humanities research on a global scale.

Sussex research plays a prominent role regionally, nationally, and internationally. We continue to explore ways to maximise our regional engagement, and make an integral contribution to groups including the <u>South East Network for Social Sciences</u> (SeNSS), the <u>Consortium for the Humanities and the Arts South-east England</u> (CHASE) Doctoral Training Partnership, and the <u>South East Physics Network</u> (SEPnet). Our local economic impact is also underpinned by significant investment in business engagement support. We contribute to national bodies leading the UK research agenda: for example VC Tickell is leading a review for BEIS on reducing bureaucracy across the research ecosystem, and his predecessor Michael Farthing was Vice-Chair of the UK Research Integrity Office.

Our close relationships with the UK Government, Parliament, and key policy actors have enabled our influence on the greatest public policy challenges of recent years: on post-Brexit



trade policy, particularly through the <u>UK Trade Policy Observatory</u> (UKTPO); on <u>Covid-19</u>, through expert contributions to planning and mitigation measures; and on sustainability and climate change through the ESRC-funded <u>Social</u>, <u>Technological and Environmental Pathways to</u> <u>Sustainability (STEPS) Centre</u>. We also have extensive links with institutions worldwide, including: Renmin University of China; Mahidol University; Hong Kong University of Science and Technology; the Chinese University of Hong Kong; Utrecht University; Universidad de los Andes; University of California, Santa Cruz; Georgetown University; and the University of Ghana.

These enable and are complemented by extensive international impact, which ranges from the <u>protection of endangered species</u> to the <u>reduction of gender-based violence</u>.

The Sussex research mission is also marked by an exceptional contribution to cutting-edge work on equalities, diversity and inclusion, our application of these principles in our research, and our influence on equalities-related public policy. Several of our interdisciplinary research centres, including the <u>Centre for Higher Education and Equity Research</u>, have impacted national equalities policy within education and in society, whilst BSMS includes research teams working to resolve global and regional health inequalities.

# 2. Strategy

Sussex's research and impact strategy has created a structured and comprehensively-resourced research environment, fostering a curiosity-driven, interdisciplinary culture. It has three overarching and mutually-reinforcing aims:

- Creating an infrastructure where all researchers are trained and supported to achieve excellence with openness, integrity, and resilience;
- Developing critical mass in selected areas through targeted development, new infrastructure, and new leadership roles;
- Matching Sussex research strengths to major national and international challenges.

These aims are expanded and contextualised in <u>Sussex 2025</u>, our Strategic Framework for 2018-2025, which maps an intention to increase further our production of internationally outstanding research. Expansive and ambitious, *Sussex 2025* builds on the success of an earlier strategy focused on increasing external income. It is enabled by a series of initiatives: a comprehensive wrap-around research support system offering skills development at all career stages; a renewed flexibility and responsiveness to supporting excellence and impact wherever it is found; a commitment to reanimating our foundational interdisciplinary ethos in response to global challenges (such as inequality, climate change, and sustainability); and the creation of structures enabling the highest standards of ethics and governance.

# Investing in Interdisciplinarity

Sussex was founded on what Lord Briggs described as 'a new map of learning'; an interdisciplinarity embedded in the fabric of the University itself. Necessarily fluid, this working across and beyond conventional disciplinary boundaries has generated distinctive Sussex forms – such as the <u>Sackler Centre for Consciousness Science</u> – and in this REF period has been vigorously re-energised with structural and financial investment.

In 2013, the University appointed its first Director of (later Deputy-PVC for) Interdisciplinary Research, who pioneered a group of pump-priming initiatives and strategic development programmes known as '<u>Sussex Research</u>'. A major University investment of £18.6m, Sussex Research catalyses interdisciplinary research by funding activities from discrete pilot studies to major investments in capacity: the smaller sums offered by the Research Opportunities Fund stimulate interdisciplinary ideas and research projects; the largest initiative, the <u>Strategic</u> <u>Competition</u>, created two new programmes with an investment of over £6m. A significant portion of our institutional Global Challenges Research QR funds have also funded interdisciplinary projects.



### Sussex Strategic Research Programmes

Our flagship <u>Strategic Research Programmes</u> have built critical mass through research-led appointments, studentships, and infrastructural investment. They are designed to address key societal challenges through cross-disciplinary expertise, and include:

The <u>Sussex Humanities Lab</u> (SHL), established in 2015 with a £3.25m investment, which structurally underpins research connections between researchers working on digital technology and computational culture across the humanities, social sciences and STEM. The SHL maintains a diverse portfolio of digital technology-related interdisciplinary research projects and links over sixty researchers to other institutions through the SHL Associates Network, and to non-academic partners from industry, the culture/heritage sector, and community groups. Since its foundation the SHL has generated £2.6m in external funding and over 130 research outputs.

<u>Sussex Neuroscience</u>, created in 2013 with a £3.25m investment enabling a 4-year PhD programme in neuroscience, funding for technical support, and match-funding for multi-user equipment bids. It currently comprises 64 life sciences, psychology, medicine and engineering researchers, who together hold c.£45m in open awards from diverse funders.

The <u>Sussex Programme for Quantum Research</u>, created in 2018 with £7m of investment, which brings together multiple research teams to explore quantum systems and advance their applications. Sussex is also part of the UK National Quantum Technologies programme and is a major partner in two national Quantum Technology Hubs. Recent award successes include a total of over £2.6m from the EPSRC, and £1.07m from Advanced Material Development Ltd (AMD).

The <u>Sussex Sustainability Research Programme</u> (SSRP), a global centre for delivering 'Science for the Sustainable Development Goals' (SDGs). Established through a £3m investment, the programme provides international, national, and local stakeholders with integrated research results encompassing natural science, social science, and the humanities, focused on the UN's SDGs. The Programme's research focuses on possible trade-offs among SDGs and solutions to avoid them and has produced significant impacts, including on <u>pollinators and</u> <u>pesticides</u>, <u>healthcare in rainforests</u>, and <u>sustainable trade post-Brexit</u>. Since 2013, SSRP has generated £3.4m in external funding.

#### **Impact Strategy**

Our impact strategy is driven by a commitment to confronting complex societal, economic and environmental challenges through innovation, interdisciplinarity, and collaboration; it has been delivered by major internal capacity-building and external relationship development. The belief that Sussex research should generate public benefit is a fundamental principle, as demonstrated in our <u>Science Policy Research Unit</u> (SPRU), a globally renowned centre of problem-oriented research and impact on science, technology and innovation policy, and in our long-standing commitment to the Easy Access Innovation Partnership.

Between 2014-19 Sussex grew its ESRC Impact Acceleration Account (IAA) (first round total £1.2m) to build capacity for knowledge exchange and impact, which was followed by a further £1.05m (2019-23). Led by an academic Director and managed by a dedicated team, the ESRC IAA initially funded 92 projects and facilitated engagement with over 200 diverse partners. These include improving local social workers' practices and training African policymakers on climate change policy, innovation, and accessing finance. The ESRC IAA continues to support impact generation and in 2019 Sussex received further funding from Research England's <u>Strategic</u> Priorities Fund (SPF), supporting new or scaled-up activity contributing to evidence-based policymaking; the SPF funded 18 projects, predominantly within social and health sciences.



Strategic vision and generous internal seed funding ensure that Sussex impact takes many forms. Our researchers have made cutting-edge technology publicly available to enable the <u>building of quantum computers</u>, and the <u>making and performance of electronic music</u>; they have generated new approaches to <u>teaching children to read</u>, provided diagnoses for very rare <u>genome-related diseases</u>, and made previously inaccessible <u>archival materials</u> meaningful to new constituencies. We have furthermore nurtured mutually beneficial relationships with those in policy and third-sector domains (including the UK Government, the UN and the African Centre for Technology Studies), and have stimulated new collaborations, looking beyond disciplinary and sectoral boundaries to target potential users of our research (including the BBC, British Armed Forces, and Friends of the Earth).

### **Collaboration, Community, and Contribution**

Collaboration is the core of Sussex research. For example, our prowess in development studies reflects intrinsic strengths in SPRU, our School of Global Studies, and <u>Centre for International Education</u>, and close partnership with the Institute of Development Studies (IDS), an independent research institute on the Sussex campus. Similarly, the <u>STEPS Centre</u>, which launched its Pathways to Sustainability Global Consortium in 2016, involves collaboration with IDS and external partners in more than 20 countries. Although we work with universities across the world, Sussex has established close, nuanced partnerships with institutions in the Global South specifically designed to respond to global challenges (for example in the <u>Transformative Innovation Policy Consortium</u>, or with the <u>University of Ghana</u> or <u>Renmin University</u>). During the assessment period the proportion of our internationally co-authored outputs has risen from 45.6% in 2013/4 to 54.7% in 2019/20 (SciVal). Governmental and corporate collaborators include the US Department of Energy, the Chinese Academy of Sciences, Araya and Microsoft.

Over the past seven years Sussex has significantly improved its capacity to develop <u>commercial</u> <u>collaborations</u>, including through contract research initiatives, IP licensing, consultancy, training, and spin-outs. Our Innovation and Business Partnerships teams work closely with the <u>Sussex</u> <u>Innovation Centre</u> (see below) on research commercialisation; significant examples include the development of nanomaterial inks with <u>AMD</u>, and the spin-out <u>InterAnalysis</u>, whose software enables policymakers to conduct otherwise-complex policy analysis.

Internally, cross-School networks are vital in generating new partnerships, such as the <u>UK Trade</u> <u>Policy Observatory</u>, one of the country's most influential research-driven contributors to post-Brexit trade debates and decision-making. Arising from an informal group convened in 2013, this Sussex/Chatham House partnership comprises trade specialists from across economics, business and management, law, and international relations, whose decades of sector experience and connections uniquely positioned them to respond to Brexit.

Within BSMS – our joint enterprise with the University of Brighton – close integration with local NHS Trusts allows medical and health researchers to work directly with the local population. Out of this successful partnership Sussex launched a dedicated <u>Brighton-Sussex Collaborative</u> <u>Research Fund</u> in 2017, supporting projects ranging from modelling memory lapses to understanding how Brighton welcomes refugees and migrants.

Sussex has a strong sense of civic mission, and was one of the first universities to pledge commitment to local communities through the UPP Civic University Agreement. The University is a key partner in the Brighton Digital Festival, the International Brighton Festival, Soapbox Science, and Lewes STEM Fair, and participates annually in the ESRC Social Science Festival. In 2017 we invited local residents to our first annual Sussex Community Festival, which included research showcases and participatory events. Close engagement with the regional economy, combined with strengthened individual business links, enables Sussex to match its R&D skills effectively to local needs and priorities, and will remain a future priority.



Independent analysis by Oxford Economics in 2018 found that the University was adding £343 million a year to the economies of Brighton & Hove, East Sussex and West Sussex. This profoundly important local impact is multifaceted. For example, medical researchers have led innovative community-based approaches to deliver hepatitis C care and Sussex is actively assisting local and national efforts to tackle the Covid-19 pandemic. Our education research has enabled Brighton & Hove City Council to establish an English for Speakers of Other Languages Hub, and studies in hate crime underpin Sussex Police's use of restorative justice. We work with local schools to develop apps that help children with music-making, and our research benefits student communities through the Changing University Cultures initiative. Our 'Sussex Modernism' project connected curators and archivists across the region, whilst our Brighton Fuse project contributed to securing the Greater Brighton City Deal and subsequent support for creative industries.

# Open Research

We implement free public access to publicly-funded research, and seek to increasingly embed this principle within our structures and culture. The University mandates Open Access for publications, normally through a Green route (we support a Gold route where external funding exists and/or in strategic priority areas). Since August 2011 all researchers are required to deposit peer-reviewed research outputs (copyright permitting) into <u>Sussex Research Online</u> (SRO), our institutional repository. As a signatory to DORA, Sussex is committed to ensuring that research is assessed solely on its merits.

Openness and engagement are central to our research culture, and recent investment has extended our open access ambitions. This includes the implementation of '<u>Elements</u>', a Research Information System, and '<u>Figshare</u>' a digital repository for research data, increasing discoverability and encouraging re-use. For training and open access advocacy we have appointed a permanent Open Access Librarian and a new Research Data Management Librarian; and to support bibliometric analysis and ethics, a permanent Research Metrics Analyst. We have also secured access to Altmetrics Explorer, allowing evaluation of the reach and use of our research, and to SciVal, enabling strategic publication.

Sussex further contributes to institutional, national and international initiatives to expand Open Access publishing, including the arXiv-pre-prints repository, Directory of Open Access Journals, Directory of Open Access Books, Open Library of Humanities, Open Book Publishers, and PeerJ.

#### **Research Integrity**

We are committed to upholding the highest academic and ethical standards. Every School has at least one Research Ethics Officer, and one of three Cross-School Research Ethics Committees considers ethics review applications. The Animal Welfare and Ethical Review Body assesses all animal-based research regardless of status in relation to Home Office (ASPA) legislation. This structure is regularly reviewed and is overseen by a central <u>Research Ethics</u>. Integrity and Governance team, which has expanded from 1 to 5 FTE in three years.

Sussex has recently restructured its research governance: a new Research Governance and Quality Assurance Committee oversees regulatory and compliance matters, while the Research Ethics and Integrity Committee drives policies for enhancing research ethics and engaging in the wider research integrity agenda.

Our <u>Code of Practice for Research</u> is also kept under regular review (last revised in June 2019). Comprehensive training is provided to all researchers on integrity and ethics.

#### 3. People

Staffing and Staff Development



Motivated by an appreciation of the value of all faculty research, our staffing strategy has: generated significant research-led recruitment, building critical mass and capacity; enhanced professional development for researchers, with bespoke initiatives for postgraduates and earlycareer researchers; and created programmes to embed equality, diversity, and inclusion. Complementing central programmes, resources are also devolved directly to Schools, for response to specific disciplinary and area needs.

All Schools have grown their research-contracted staff numbers during this period. Several units, including Law, English, and Business and Management, have explicitly focused on ECR recruitment, and all early-career staff have reduced teaching loads to prioritise research development. Research mentoring for new colleagues is provided by more experienced peers who advise on publication, funding, and impact strategies.

Since 2013, the University has held the <u>European Commission's HR Excellence in Research</u> <u>Award</u> (last reconfirmed in February 2021). A dedicated Research Staff Working Group oversees the implementation of the required Concordat to Support the Career Development of Researchers, and in 2018 the University re-launched its flexible working procedure, <u>Flexible</u> <u>Sussex</u>. This commitment to be 'flexible by default' provides equal access to promotion and progression regardless of individual working patterns. The process for current staff to request flexibility has been streamlined and, since October 2018, all new roles have been advertised as open to flexible working arrangements, subject to business requirements.

# Postgraduate Research

Sussex provides an intellectually vigorous, inclusive, and well-resourced environment for doctoral research. During this period, we have considerably enhanced our postgraduate training programme to ensure comprehensive coverage and reach. Leadership is provided by a Director of Doctoral Studies, who led the introduction of formalised aims and overarching standards, the Sussex Principles Governing Doctoral Study, in 2019.

The <u>Sussex Doctoral School</u> (since 2019 incorporating the Research Student Administration Office) supports postgraduate researchers for study and future careers. In 2018 it made one of only seventeen successful bids for Office for Students/Research England Catalyst Funding and the resulting project, '<u>Understanding the Mental Health of Doctoral Researchers</u>', involved a UK-wide survey (with 4,600 responses), and its widely-recognised recommendations include mental health training for PGRs and new training for supervisors.

The <u>Researcher Development Programme</u> (RDP) provides year-round courses and development to help PGRs with doctoral completion and planning for the future. The RDP is mapped to the Vitae Researcher Development Framework, and reviewed annually. In 2019-20, the RDP incorporated 129 events (including workshops and webinars, a writing retreat, and thesis boot camps) with 1,870 attendances. Many of these sessions are also open, and promoted, to early-career research staff, ensuring that both ECRs and PGRs receive outstanding training.

Researcher Development Officers work closely with all Schools to develop and deliver PGR training. This is augmented by Library workshops on bibliometrics and open access publishing, and a regular 'Introduction to the REF' session for postgraduates. Career development is one of six programme themes, with dedicated sessions covering Career Exploration, Effective CVs, Interviews, and Networking. These are repeated termly, and a new workshop launches at the Festival of Doctoral Research, a showcase for the research of Sussex PGRs involving workshops and networking events that takes place annually in June.

The Doctoral School offers funding opportunities to support PGR development. The Doctoral Overseas Conference Grant provides funding for travel, accommodation and fees for conference presentations. Since 2015, 300 researchers have received these awards. Following Covid-19,



the scheme was adapted to fund online conference fees. The Researcher-Led Initiative Fund also offers PGRs funding (£750 each) to organise activities related to training and development, public engagement, and mental health. The latest round awarded projects including: a conference connecting undergraduates to doctoral research; an event series promoting BAME role models in science; a documentary film with Pakistan's #MeToo survivors; and self-care packages to foster postgraduate wellbeing during lockdown.

# Equality, Diversity and Inclusion

For Sussex, equality and diversity are essential predicates for research excellence. Our foundational commitment to equalities is matched with practical action to improve the working environment for all, as demonstrated in our equality and diversity strategy, <u>Inclusive Sussex</u>. Following the recent departure of the DPVC for Equality, the University is furthering its commitment to inclusivity by recruiting for the new role of PVC: Culture, Diversity, and Inclusion. Four academic leads coordinate work on four equalities strands – race, gender, LGBTQ+, and disability – working in partnership with cross-institutional staff and student networks and a specialist EDI unit (2.8 FTE) based in HR.

Significant practical changes have been implemented, including enhanced flexible working procedures, and the major expansion of EDI training, including mandatory unconscious bias training for all staff and PGRs. Multiple initiatives have celebrated the contribution of researchers in under-represented groups, for example through a 'Women in Science' profile series featured prominently around campus and online, and the 2018 'Out and About STEM' project promoting LGBTQ+ STEM researchers.

Our progress is reflected in several formal accreditations and charters. Sussex is:

- The recipient of an institutional bronze Athena SWAN award, alongside two silver and three bronze departmental awards;
- A Stonewall Diversity Champion;
- A member of the Race Equality Charter (applying for a bronze award in 2022);
- Recognised as Disability Confident Committed (valid until 2022).

Our commitments are formalised in Gender Equality (published May 2020) and LGBTQ+ (July 2020) Action Plans, amongst others. We host multiple EDI staff networks that enable selforganisation and advocacy, including for BAME, LGBTQ+, Trans and non-binary staff, staff with disabilities, and carers. We also have a network of trained EDI and Dignity and Respect Champions who provide confidential advice for faculty seeking support.

In 2018 the VC commissioned the Sussex <u>Changing University Cultures</u> (CHUCL) research team. The result was a published report and analysis of over 900 recorded experiences of working and studying at Sussex. The findings were integrated into *Sussex 2025*, and led to investment in organisational development practices, the implementation of enhanced transparency, and a 'reverse mentoring' initiative for the University Executive Group, to reflect the diverse needs of different staff constituencies. The CHUCL model was subsequently adopted by other UK HEIs.

Our commitment to EDI in REF matters (described in our <u>REF2021 Code of Practice</u>), has produced the following actions:

- Training on REF and unconscious bias from Advance HE for all key decision-makers;
- School research committee review of the EDI dimensions of outputs selection, feeding into longer-term planning for staff support;
- Review of anonymised data on the protected characteristics of Category A staff versus our broader academic staff base, and on those protected characteristics relative to numbers of outputs selected per person. This information has been analysed alongside other commissioned internal reports, and in relation to national discipline-based analysis.



This has produced short-term actions (e.g. additional review of outputs from underrepresented groups) and medium-to-long-term steps (e.g. informing publication support for those returning from maternity leave);

• 'Lessons learned' analysis at School/departmental and institutional level, informing the formal Equalities Analysis undertaken on REF matters.

We have also fully utilised the REF individual circumstances process, overseen by an internal committee including EDI experts. Subject to consent, new information from this process informs individual adjustments and broader planning on accessibility and inclusion.

# 4. Income, infrastructure and facilities

#### Income

Sussex has seen significant research income growth during this period to a total of £254m (a near-doubling since the previous REF period, where income totalled £133m), and an annual increase from £29.8m in 2013-14 to £40.1m in 2019-20. Income has grown from a range of funders, notably The Wellcome Trust, with five grants of over £2m; the EU, with 15 Horizon 2020 ERC grants of over £1m; and has been awarded from all the major UKRI research councils, as well as Cancer Research UK, The Royal Society, The Leverhulme Trust, and others. Sussex has also attracted over £2.5m in charitable donations from the Rudd and Sackler Foundations.

We have achieved this through a strategy of improved alignment with UKRI and key funder priorities, significant staff growth in targeted areas, and redeveloping our research support infrastructure. This includes the <u>Research Development Fund</u>, a new initiative to boost research income, pump-priming activities aligned to specific external funding opportunities. In this period such projects have leveraged external funding of c.£8m.

# Infrastructure

Our institutional research support infrastructure includes:

- Overarching research leadership from the Vice-Chancellor, Provost, and Pro-Vice-Chancellor (Research and Enterprise), two Deputy PVCs for Research. and several new leadership posts, including a Director of Research Partnerships, Planning, and Impact; a Director of Interdisciplinary Research; and a Director of Impact Acceleration;
- Institutional-level Professional Services divisions including Research and Enterprise Services (RES), the Library, Finance, IT Services, and External Relations;
- School-based research management and support provided by each Head of School, Director of Research and Knowledge Exchange, and dedicated Professional Services teams (typically 3-6 FTE).

The <u>RES Division</u> – in collaboration with School-based research support staff – provides all faculty with support throughout the research cycle, including securing and managing research funding, upholding integrity, ethics and governance, maintaining information systems, building and managing partnerships, and enhancing research performance and impact. This REF cycle saw the creation and growth (to 6 FTE) of a dedicated Research Quality and Impact Team, and its integration with the ESRC IAA and External Relations Teams. It oversees institution-wide training, mentoring, and networking initiatives. One example, introduced in 2015, is <u>Sussex</u> Impact Day, an event designed to showcase and build research impact capacity. It has featured keynote speakers including David Sweeney (Research England), Chris Tyler (Parliamentary Office of Science and Technology) and Vanessa Cuthill (ESRC). Our commitment to celebrating our researchers' impact is formalised in the Sussex Impact Awards (£1k prizes to fund further impact-generating activities).

Recognising the increasing importance of digital and data-driven methods across all disciplines, Sussex has initiated a programme of technical infrastructure enhancement that includes the



interoperability of technical services; the establishment of specialist capability such as Research Software Engineers; and a review of operating models to harmonise provision. A senior research support post was created in IT Services in 2018, and an Enabling Research Technology Strategy has been developed in collaboration with stakeholders from the Schools and Professional Services divisions. IT Services also support specialist infrastructure for Sussex researchers, including a centrally-managed High-Performance Computing (HPC) service of 2,755 computing cores, suitable for different classes of computational work, available to all researchers.

During this period, Sussex has undertaken the extensive (and on-going) refurbishment of its science estate: creating the <u>Future Technologies Labs</u>, part of a major refurbishment of the Engineering and Informatics building; refurbishing and purchasing new technology for the Clinical Imaging Sciences Centre (see below); and providing new facilities for quantum technology.

We prioritise the following challenges in reproducibility:

- Education/training on the principles and procedures;
- Fostering a culture of open science;
- Representative sampling;
- Infrastructural support for data-sharing.

We have invested in training courses for staff and research students in R (free, open-source software for statistical analysis). Additionally, the School of Psychology offers workshops on enhancing reproducibility and hosts external speakers to engage with best practices. We encourage all researchers to publish research data using Figshare.

#### **Specialist Research Facilities**

This REF cycle has seen the significant improvement of our research facilities with strategic investment in new, sustainable spaces and equipment that promote interdisciplinarity and/or facilitate enhanced collaboration and impact. Major developments have included:

The <u>Attenborough Centre for the Creative Arts</u> (ACCA), re-opened in 2016 following an investment of £9.7m. With its 350-seat auditorium and three performance studios, the ACCA is the major on-campus facility for practice-led research and public-facing activities. As a creative hub it enables staff and students to engage with professional artists and organisations (it is a primary venue for the international Brighton Festival) and its programmes support research-informed activities, R&D scoping periods and faculty work-in-progress or invited showings.

The <u>Digital Humanities Lab</u>, a key feature of the SHL (see above); a dedicated, well-equipped space that hosts workshops, seminars, performances, installations, exhibitions and experiments.

<u>The Keep</u>, opened in November 2013 following a £19m investment. This resource centre brings together the archives and collections of the University of Sussex, East Sussex Record Office, and Brighton & Hove City Council. The facility is extensively used by Sussex researchers and stakeholders from across the region.

The <u>Clinical Imaging Sciences Centre</u> (CISC), a purpose-built interdisciplinary research, imaging and teaching facility opened in 2007, facilitating world-class research into addiction, emotion, consciousness, psychophysiological mechanisms, neurological and inflammatory disorders, cancer, dementia and Alzheimer's disease. CISC offers multimodal and quantitative imaging, alongside opportunities for integrative imaging and a particular strength in imaging neuroscience. Recent investment has generated substantial refurbishment and the 2017 installation of a £1.6m 3T MRI scanner. By providing services to the local NHS Trust, CISC demonstrates how our research and local engagement agendas intersect and support one another.



Biomedical Research Facility: Sussex has invested £1m to update the ventilation infrastructure for this specialist facility housing animals that are Home Office licenced for use in research, enabling a 20% increase in animal handling capacity.

The <u>Sussex Innovation Centre</u> (SINC), a business incubation and research commercialisation facility wholly-owned by the University of Sussex. Significant expansion has seen the original Sussex building joined by a Croydon site in 2015. From 2020, the University's Innovation and Business Partnerships Team are based within SINC, reinforcing their close collaboration. From mid-2019 this team have responsibility for developing proof-of-concept prototypes, securing patents, developing business models, and conducting market research, work previously supported by Sussex's Enterprise Development Fund.

As these examples indicate, Sussex has substantially invested in its research facilities over recent years. Alongside an abiding commitment to innovation, collaboration, and excellence, this investment shows how Sussex research is able to draw on the flexible, distinctive forms of our past to confront contemporary challenges and shape the future.