

# An Academic Strategy for Research in 2020-21



## Foreword

Research is a core element of King's identity, and plays a central role in everything we do, care about and teach. There has been considerable progress in research over the past few years, with research funding increasing almost 50% since 2015/16 and ever-increasing activity at the interface between disciplines. Our focus is on innovative research, underpinned by a commitment to open access and the highest standards of research integrity. Recent successes include the award of our first Economic and Social Research Council Centre (Society & Mental Health), investment of c.£30m into AI research, the university's first ever ERC Synergy Award in Arts & Humanities, the university's largest ever grant awarded (in autism research); and our 4th UK Research Partnership Investment Fund award (£16m).

Our research endeavour faces considerable challenges from the COVID-19 outbreak, particularly through disruption of our ability to access on-site research facilities, library and archival resources, and to conduct face-to-face research, including with patients, and to conduct patient-facing research. A further challenge will take effect in 2021 when we reach the end of our "transition period" with the European Union. Whatever the difficulties presented by the current circumstances, delivering "research to inform and innovate" remains central to our Vision, and it is of paramount importance that we ensure that the King's community works together to enable research to continue to progress.

Equality, diversity and inclusion are cornerstones of King's Strategic Vision 2029, and we firmly believe in the importance of creating an inclusive environment where all individuals are valued and able to succeed. Our commitment to equality, diversity and inclusion is even more crucial in times of crisis, since this can often compound inequalities, having a disproportionate effect on already-disadvantaged groups. In defining our vision for research in this coming year, we must ensure that we retain our commitment to make the world a better, fairer place. We also recognise the important role that our research can play in addressing structural inequalities and their consequences.

The public health crisis caused by COVID-19 has demonstrated the strength and agility of our world-leading research community. Researchers from across the university have collaborated to tackle questions ranging from development of therapeutics, ventilators and diagnostics, to mental health, social science and emerging legal issues. King's Health Partners has played a leading role in the national healthcare response to the outbreak, treating over 3,200 patients and participating in over 55 clinical trials; academics from across our Arts & Sciences Faculties are at the forefront of research into the effects of the pandemic on business, employment and consumer behaviours, as well as on culture and the arts. We must build on this spirit of urgency and cooperation to drive research forward across the university over the next year.

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*'King's Academic Strategy for research aims to support our research activity in the best possible way during the 18-24 months crisis caused by the COVID-19 outbreak, maintaining research momentum and ensuring that King's research is in the best possible place to resume growth in 2021.'*

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Professor Reza Razavi  
Vice Principal & President (Research)

## Goals and Priorities

In order to sustain the momentum of our research, we will focus our activity on 6 enabling priorities:

- *Transforming the way we deliver research on-site.* We must create new ways of working to maximise our inclusivity and research capabilities while keeping our staff and students safe at all times.
- *Maintaining our momentum for outputs and grants.* Research is easy to stop but hard to re-start. A continued focus is needed to maintain our upward progress, and regular monitoring of our performance (through the agreed research KPIs) will inform targeted activities and future action.
- *Supporting the academic pipeline.* Delivering a positive research culture, that offers the best opportunities and training, from postgraduate students to postdoctoral and early career researchers, and senior academics, actively seeking to diversify and address areas of underrepresentation.
- *Focusing on equality, diversity and inclusion.* To understand and mitigate the effect this crisis has had in widening inequality, and to enhance King's appreciation, development, and support for under-represented groups.
- *Facilitating impact, engagement and commercialisation.* Pursuing partnerships that deliver societal and economic benefit and increasing the transformation of our research into commercial activity.
- *Enhancing our research infrastructure.* Improving the platforms and facilities that enable our research is critical to maintain our momentum; a particular focus will be on e-research, which is a major unmet need across the university.

For each priority we identify a number of Highlight Actions, which we recommend implementing in order to deliver our goals. This should initially be run as a 2-year pilot, and its impact evaluated in late 2022.

## 1. Transforming the way we deliver research on-site

Much of our research relies on access to laboratories, libraries, and archives, as well as work with patients, test subjects or collaborators, which was interrupted with little warning in March 2020 as part of the country's lockdown measures to contain the COVID-19 pandemic. We recognise the importance of re-establishing onsite research as a matter of priority. It is clear, however, that the use of on campus research facilities and access to resources in the short/medium term will be at a reduced capacity; this makes it critical to set out clear principles to guide the prioritisation of on-site activity.

With the safety and wellbeing of our staff and students remaining our prime concern, in prioritising access to campus the following factors need to be considered:

- Projects nearing completion or approaching (critical) milestones: this includes *PhD projects* approaching submission date.
- Fair and balanced distribution across Faculties, Schools/Departments and Groups within them.
- Funded research projects.

In all circumstances, appropriate evaluation will take place to ensure that there are no adverse ED&I consequences in the prioritisation process.

### 1.1 Return to campus

Summer 2020 has been characterised by the phased resumption of on-campus activities following lockdown. Throughout this phase the focus has been on minimising risk for staff by combining risk assessment procedures with appropriate risk mitigation measures. The key principles that have guided (and are still guiding) our approach to on-site activity are:

- *Limiting contact with non-staff* through, e.g., expansion of bike-rack provision to encourage the avoidance of public transport, or flexibility



- *Limiting contact with other staff members* through limiting the number of staff in any area or room, working in designated bubbles, introducing shift patterns and/or staggered working hours, and creating one-way systems in corridors.
- *Hygiene and personal protection* through provision of centrally funded personal protective equipment (where appropriate) and increasing hygiene measures (disinfecting areas, marking safe distances on floorplates, washing / disinfecting hands).
- *Mitigation planning*, in case a rapid shutdown is required, to include tidying away equipment and materials at the end of each day or period of work, and a light-touch process where this is not possible.
- *Supporting staff*, proactively recognising the diversity of our community's needs, from caring responsibility, vulnerability to infection, through to difficulty travelling to work, and more.

It is apparent that the COVID-19 outbreak is unlikely to be resolved in the very short term, and it is crucial that going forward we develop a dynamic and agile approach to on-site activity, able to adapt to changing circumstances. Guided by the principles above, each Faculty will continue to lead the monitoring and prioritisation processes for on-campus activities, with due consideration given to the requirements imposed on externally funded research, the overall balance across the research base (range of research topics and priority research areas), ED&I, research impact and productivity.

### **Highlight action: supporting carers**

We recognise that returning to campus whilst the effects of the COVID-19 crisis endure is particularly challenging for staff with caring responsibilities. We also note that the inability to undertake duties on campus has a particularly damaging effect on many of our staff, including research and teaching staff, particularly where there is a short window of opportunity to deliver the academic success needed to enable a long-term career in universities. For this reason, as part of our hardship support for staff, we will look to ensure staff with caring responsibilities whose careers are being particularly adversely affected will get help with access to campus facilities.

## **1.2 Longer term approach**

The COVID-19 outbreak has had a profound impact on the way we work, with lockdown and social distancing measures forcing us to review standard practices and reconsider the importance of physical presence and proximity. Whilst these changes were effectively imposed on our community by the circumstances, they have proved that there are alternative ways of working from those that have characterised our past endeavours, and we believe this experience gives us the opportunity to review what our working environment should look like in future.

- *Supporting remote working.* The experience of spring 2020 has taught us that high level of activities can be carried out effectively off-campus, often with a positive impact on staff satisfaction and wellbeing, as well as a registered increase in productivity. It is therefore critical that, in future, we recognise the potential of remote working and ensure that our staff and students are supported appropriately in working from home (for example through appropriate provision of equipment and other resources).
- *Working on-site.* Research is an activity that benefits from the exchange of ideas and from the engagement with colleagues and the community, and we know that some of the most fertile interactions are serendipitous. For this reason, we acknowledge the need to balance on- and off-site research activity.
  - Regular reviews of the balance between remote and on-campus working will be undertaken as our community's needs and the Government's guidelines evolve.
  - We will set up processes to encourage on-site collaboration and support across groups and between individuals. As a specific example, we will develop a platform where tasks that need to be done in person are shared with colleagues on campus who will have the opportunity to volunteer complete said tasks (thus reducing the need for many to travel to the campuses in person).

The Flexible Working Group is working with the RTCWG and Faculty leadership to ensure that flexible working is not conflated with remote working; it provides up-to-date guidance on flexible

working and is drawing up 'return to campus' interviews to ensure that managers and staff follow best practice.

- *Increasing on-site productivity and flexibility.* The Bookkit system (<https://www.bookkit.org/>) is being rolled out across college to enable better planning of research activity, optimise the use of space and resources across multiple projects, and facilitate contact tracing operations. We will also develop and deliver short training programmes on research project planning and on the use of planning tools, to help staff and students plan their research within the additional constraints due to limited space and resources.

### **Research Spotlight: The June Almeida Laboratory at Guy's**

King's College London, Guy's and St Thomas's Hospital and Viapath have set up the June Almeida laboratory in King's academic facilities at Guy's Hospital to perform SARS-CoV-2 testing using RT-qPCR, reflecting demand from NHSE/I and PHE. Led by Dr Rocio Martinez-Nunez, Research Lead for King's and Dr Penny Cliff, Lead Clinical Scientist for Viapath, a joint working party manages the new laboratory, and it is staffed by a mixed team with equipment drawn from all three partners. Before opening on the 11<sup>th</sup> May, the lab passed a full National Testing Audit by NHSE and is now operating at full capacity.

King's brought scientists with understanding of RNA virus biology, host-pathogen interactions and protective immunity, innovation and laboratory expertise as well as valuable technology and laboratory space. Viapath brought deep understanding of providing scale diagnostic lab services across multiple sites, broad community geography and the logistics and IT expertise to provide specialist testing to over 400 UK hospitals.

The success of this programme shows the benefits of bringing together an innovative team comprising clinical academics, research scientists, and healthcare scientists with diagnostic operational delivery expertise in a focused goal-driven environment. It is the seed of future success and the plan is to build on relationships created to take on the next challenges. Whether it be wide community and staff and student testing or bringing antibody testing to general diagnostic function, or any future clinically driven requirement, we have now created an agile and responsive team.

- Return to campus for researchers and those who support research in professional services includes careful consideration of diverse needs via dialogue between central and Faculty leadership teams and our researchers. Considerations include access to workspaces for those with disabilities where layouts may have changed; access to public transport; access to nurseries and other caring spaces for those with children or other care responsibilities; and the impact of Coronavirus on mental health.

### **Research Spotlight: Arts & Humanities Research Institute**

The constituent research centres of the Arts & Humanities Research Institute (AHRI) have risen to the challenge of COVID-19 through devising a range of digital engagement activities. With campus closed and staff working from home, centres responded by developing new, creative methods of engagement that targeted existing and new publics for their research. Centres delivered a programme of virtual events, rapidly developing new skills and collaborations with teams across King's and with external partners. The [Centre for Digital Culture](#) moved their annual conference, *'Memos: The Cultural Logic of Late Capitalism'* online, attracting 1687 attendees. The recording of the conference can now be viewed on the [Centre for Digital Culture's YouTube channel](#). To celebrate Pride 2020, [Queer@King's](#) developed a series of online interviews and discussions with queer artists titled ['Queer@King's online with...Queer Artists on their Work'](#). The centre focused on producing accessible virtual events, with each event including BSL interpretation. The [Centre for the Humanities and Health](#) transformed a traditional book club into a [virtual offering](#), utilising platforms such as Goodreads to engage with new audiences. Some centres took the opportunity to grow their social media presence. The [Centre for Hellenic Studies](#) developed #HellenicFridays, sharing podcasts, recipes and theatre livestreams connected to their research activity, resulting in 10,000 Twitter impressions in July 2020 compared with 264 impressions in July 2019. Alongside the Centre for the Humanities and Health, the Centre for Life-Writing Research collaborated with [King's Cultural Community](#) to contribute to [King's Reflecting Together](#). The project will develop a time capsule and archive of creative work that reflects the struggles and the strength of community during this unprecedented period.

## 2. Maintaining our momentum for outputs and grants

High-quality research requires a long-term outlook and sustained activity over extended time periods; it is not an activity that can be turned off and on without disruption. It is therefore critical to maintain our research activities despite the challenges created by the current situation. We must ensure that research funding is maintained, to secure the future research pipeline, and we must maintain our production of high quality, high impact outputs *underpinned by outstanding research conducted to the highest standards of research integrity*. We must also ensure we take full advantage of increased government research funding with an additional £1.5bn added to the UKRI budget for 20-21 and a planned doubling of research funding in the next 4 years.

In our pursuit of research excellence, we are proud signatories to the Concordat to Support Research Integrity and run an ongoing programme on the development of policy and training to support research integrity, including open research.

King's undertakes a wide range of internal coordination and “pump-priming” activities, both centrally and at Faculty level, which we know are effective in supporting disciplinary and inter-disciplinary research. We must maintain these as far as possible during the current crisis, to ensure that we can capitalise on future large-scale funding opportunities.

### 2.1 Research Development

Research development supporting our grant capture builds on previous successes and broad experience to enable growth of research in terms of both scope and scale. It plays an important role in ensuring that our academic strengths translate into success in national/international strategic funding competitions, forging partnerships academics and non-academics, within and across disciplines, and at every career stage, to obtain highly competitive

### Research Spotlight: the ESRC Centre for Society and Mental Health

The ESRC Centre for Society and Mental Health was awarded in 2019, and is the first centre to examine modern society's impact on mental health, particularly focusing on transitions between life stages. Led by Professor Craig Morgan (IoPPN) and Professor Nik Rose (SSPP), it focuses on young people; marginalised communities; and work and wellbeing. An investment of £8m over five years, it aims to tackle the rising mental health problems experienced by some demographics and communities.

<https://www.kcl.ac.uk/research/centre-for-society-mental-health>



### Highlight action: mentoring and internal peer review

COVID-19 has had a significant impact on research productivity for many colleagues, who will benefit from the support and guidance of mentors as they focus on research during the next 12 – 18 months. We will work with Faculties to champion mentoring and internal peer review schemes, which we know bring multiple benefits to all who engage in them. We will provide particular targeted focus on addressing the potential disproportionate impact of COVID-19 on BAME and female colleagues. Examples of mentoring best practice, such as seen at the IoPPN, will be celebrated, publicised, and made accessible for implementation across different areas of the university.

Maintaining the current level of this activity will be critical to allow King's to retain a competitive position in a rapidly changing environment. For this reason we will maintain the highest quality research development support for researchers at King's, with a particular focus on:

- *Large and strategic initiatives.* Supporting ambitious, long-term and multidisciplinary research programmes, to deliver research of high visibility and ambition.
- *Research pump-priming.* Through our King's Together scheme we will continue to support research into ambitious, cross-disciplinary areas, providing our research community with a platform to support the development of externally-funded research. The KHP Research and Development Challenge Fund will continue to bridge the transition between discovery and translational research.

### Spotlight: COVID-19 rapid response calls

We have launched two rapid-response King's Together calls since the lockdown was announced in late March 2020; combined, the rounds received more than 350 applications; 50 awards were made to a value of more than £700,000.

These awards encompass the health and social implications of the pandemic. Health research funded includes Professor Mitul Mehta on cognitive outcomes following SARS-CoV-2 infection, and Professor Tim Spector and Dr Clare Steves for the development of the COVID symptom study app, which has now been downloaded by nearly 4 million people across the UK. Social science and humanities research funded includes Professor Bobby Duffy, working with Professor Anand Menon, on the impact of COVID-19 on perceptions of and attitudes to inequality, and an award to Professor Catherine Boyle to explore the ways in which the pandemic has been narrated and understand the impact COVID-19 has had on our language and how we see the world.

- *Fellowships and early career researchers.* Support at an early career stage is critical to foster the next generation of research leaders, and it will be even more important in 2020/21 as we seek to strengthen our research capabilities.
- *Translational research.* Essential for delivering impact from our research. Supported by Wellcome, we will create a new team of translational research specialists, working with our Biomedical Research Centres to accelerate the transition from fundamental research to new therapies, diagnostics and devices.
- *International partnerships and funding opportunities.* Given the risks posed by Brexit, it is critical to maintain a focus on our international activity, building on our partnerships and expanding our portfolio of research funders abroad to mitigate the potential impact of the loss of EU-funded research.

### Spotlight: Life Lines

The Life Lines project was set up during the early phases of the COVID-19 outbreak to address the needs of families to stay connected when they cannot be near, by allowing patients' relatives to see and speak to their loved ones via a tablet through a secure online platform. Life Lines provides families with the opportunity to meet the clinical team providing care, ask questions and better understand the environment in which the patient is being treated.

The project, led by Prof Rose (Florence Nightingale Faculty of Nursing, Midwifery and Palliative Care), Dr Meyer (critical care consultant at GSTT), has been developed by a unique partnership of clinicians, academics, companies and charities who have shared expertise and resources to help patients and families stay connected.

Initial seed funding was provided by the True Colours Trust and the Gatsby Charitable Foundation.

## 2.2 Research Administration

The heart of the research lifecycle is the grants process. Over the past few years we have recognised the need to replace the research tracking IT system, remap business processes, and reevaluate the structures of key units and our working relationship with faculty-based colleagues. This is a complex process, and we are now halfway through the transformation journey.

The first 3 modules of our new IT (Worktribe) research tracking system – pre-award, costing and contracts – went live at the end of June 2020 (and rolled out research and academic staff from August 2020). The second tranche of deployment of post-award modules is scheduled for launch at the beginning of 2021. This project will enable huge gains in administrative efficiency for support staff and researchers. As an example of how the system will benefit researchers the new costing module will allow real time and very simple building of a research project budget that will be seamlessly migrated to the financial system as a research spending account is set up.

Alongside system renewal a complete remapping of our business processes and restructuring of the units involved in the grant life cycle will reduce administrative burden and increase efficiency; we have increased capacity of both post-award and the contracts unit, reducing turnaround time.

### Highlight action: RMID-Help

RMID Help is a new service launched to provide an effective centralised resource for all RMID queries, with the goal of ensuring researchers and admin staff have access to real time solutions.

The new Helpdesk is led by Solara Halwatura and Sian Warr and will provide fast and effective resolution on RMID related queries. And where specific know-how is required, they will be able to redirect queries directly to the person with the expertise to help.

(@: [rmid-help@kcl.ac.uk](mailto:rmid-help@kcl.ac.uk) ; T: 020 784 82500)

## 2.3 Research Performance

We expect 2020/21 to combine increased pressure on resources, due to the need to develop new teaching and working models, and a challenging financial situation due to increased Covid-19 related costs. Despite this, it is essential to recognise the central role of research in the university's mission, reputation and financial sustainability. For this reason, it is critical that we maintain and enhance our efforts to monitor and enhance research performance. This will allow us to have up-to-date information to guide resource allocation and decision-making processes, to best support research. The following three activities are priorities for 2020/21:

- *REF 2021*. The delay to the REF 2021 means that we will need to sustain activity to support the best possible submission for King's.
- *Research KPIs and Management information*. Continuing to monitor our performance in key research metrics (quality outputs, new research awards, post-graduate students) is critical to measure the impact of the crisis on our research, and to implement timely and effective measures to support our research activity.
- *ED&I*. Given the disproportionate impact the COVID-19 outbreak has had on certain groups, it is important that we understand the extent and underlying mechanisms of this, and that this knowledge informs the development of appropriate policies and processes to ensure that we recognise performance fairly across our community.

### Highlight action: research focus

Research Management and Innovation teams will work with Faculties on messaging around research, publishing guidelines and case studies which remove confusion over the cost of research, to encourage increased high-quality research grant applications; these will be published in parallel with guidance on cost recovery within research grants, which will dovetail with the introduction of the new Worktribe research costing system.

### 3. Supporting the academic pipeline

Staff and students are the heart of King's, and of our research and innovation. In such a time of crisis, it is critical that we support our academic community, ensuring continued growth and development in their careers.

#### 3.1 Postgraduate Research Students

King's continues to work towards the ambitious objectives of its PGR (postgraduate research student) Strategy, aiming to recruit an extra 1000 PGRs by 2029, such that our ratio of PGRs:academic staff is at the Russell Group average. These extra PGRs, exclusively focused in health, science & technology, will strengthen our research base and further enliven our research environment. These high quality PGRs will enjoy a world-class student experience and develop into highly skilled researchers, able to transition into a diverse range of careers, as well as progress in research/academia.

Whilst, in light of COVID-19, short term increases in funding for scholarships may be challenging to achieve, we can enable the strategic use of fee remission to leverage both PGR student stipends and bench fees and attract high quality PGR students internationally. The PGR Strategy is led by the Deans for Doctoral Studies, in coordination with the Centre for Doctoral Studies and in partnership with Faculty Associate Deans.

- *Growth and finance*, including the establishment of three internally funded Centres for Doctoral Training and the renewal of our flagship PGR programmes, the review of the suite of scholarship opportunities (with particular focus on international programmes), the implementation of a revised Graduate Teaching Assistant policy and the delivery of financial support for PGRs impacted by the COVID-19 outbreak.

- *Quality assurance, data and processes*, including the review and refresh of a suite of regulations and processes, with a focus on equality, diversity and inclusion, and the implementation and release of improved data management and online tools.
- *Researcher support and development*, with a focus on increasing training support for PGR and supervisor mental health and wellbeing, and expanding our training provision for both PGRs (e.g. work with London Arts & Humanities Partnership to pilot revised development initiatives for PGRs in early years) and supervisors (with the launch of the 'doctoral supervisor hub').
- *ED&I*. We will establish a PGR equality, diversity & inclusion task & finish group to conduct a mapping and gapping exercise to identify and share good practice across the university and highlight issues which need addressing.

#### Spotlight: UKRI Centre for Doctoral Training on Safe and Trusted Artificial Intelligence

The Safe and Trusted Artificial Intelligence (STAI) CDT was awarded by the Engineering and Physical Sciences Research Council and was established in 2019. Led by Professor Michael Luck of the department of Informatics, it will train around 65 students, a significant investment in the future of AI research. The students will work on model-based AI approaches and their use in developing safe and trusted AI systems; the implications of AI for wider society including the relevance of safe and trusted AI to legislation and regulation, and to different industry sectors and application domains.

<https://safeandtrustedai.org/>



### 3.2 Research Staff

King's research staff are a critical community for the delivery of our world-leading research. Research assistants and postdoctoral research fellows and associates, alongside technical staff, enable us to achieve our research goals - fulfilling the requirements of our funding and ensuring that funding results in outputs which enhance our reputation. As a result of COVID-19, research staff are understandably concerned about the numbers of roles available in research/academia, at least in the short term. King's remains fully committed to supporting research staff in transitioning to the next stage of their careers, a fact also demonstrated by King's signing up to the revised Concordat to Support the Career Development of Researchers in January 2020. This will enable us to further embed best practice for our researcher community across the College, led by our dedicated team in the Centre for Research Staff Development.

Our priorities over the next 18 months are:

- *External engagement and awards*, including the renewal of our HR Excellence in Research Award, and the submission of our Concordat action plan.
- *Research Culture*, to ensure that the environment at King's is welcoming, equitable and inspiring: this will focus on three key aspects of *career pathways, reward and recognition* and *addressing bullying and harassment*.
- *Professional development*, including specific initiatives to assist staff in light of the impacts of COVID-19, e.g. exploring new ways of working.
- *Re-evaluation of fixed-term contracts* and their impact on research, with the aim of reducing our dependence on them (in collaboration with the VP Education and with the Russell Group).
- Our *King's Prize Fellowships* scheme will continue to play a pivotal role supporting the most promising early-career researchers transition to independence, providing 2 years of pump-priming salary support and enabling the transition to independent fellowships. (Note that this scheme is supported by the Wellcome Trust and therefore only open to research within the relevant remit).

### Spotlight: UKRI Future Leader Fellowships

Dr Isabel Dregely is a physicist who has been awarded a UKRI Future Leader Fellowship for her project 'DIFFERENCE: DIFFusion magnetic resonance imaging with Enhanced Resolution ENCoding - Precision Imaging in Cancer'. The project focusses initially on prostate cancer, the most common male cancer, diagnosed in 1.3 million men each year, where her imaging method will improve MRI-based detection and characterisation accuracy, reducing the need for biopsies and avoiding overtreatment; as well as radiotherapy treatment planning. The FLF gives her long-term support to develop her research ambitions to improve early diagnosis and precision treatment planning for cancer patients, ultimately enhancing quality of- life and health. Isabel's Fellowship is based in the School of Biomedical Engineering and Imaging Sciences and takes advantage of both clinical and industrial partnerships with GSTT and Siemens. Isabel was supported in the development of her research through a KHP R&D Challenge fund award as well funding support from EPSRC and Siemens which allows her to supervise two 4-year PhD students.

Dr Hannah Murphy has also been named one of UKRI's Future Leaders Fellows for her research project on the pre-modern history of medicine and race. The £1.4m project, entitled, *Medicine and the Making of Race, 1440-1720*, will develop a global prehistory of race through the lens of medical encounters and practices of enslaved and free Black Africans forcibly transported during the African slave trade. The project will ask among other things what role medical practitioners played in the increasingly systematic enslavement of African peoples, both in Europe and in the New World? Hannah's fellowship will be based in the Department of History and is part of emerging research themes in Arts and Humanities on race and on the health humanities. Hannah was supported in the development of her project and the ERC application by the Arts and Sciences Research Office and the research and impact team in Arts and Humanities.

### 3.3 Academic Staff

In considering our commitment to supporting our staff in their future development, it is critical that we extend our provision to our emerging and established research leaders, who underpin our research excellence and are pivotal in fostering the next generations of research excellence.

- Our flagship *Leading Researchers Programme* is now in its fourth year. This programme gives those with significant research expertise a focused skills development toolkit which will allow them to move toward building strategic research groups with the development of early career research talent at their heart, underpinned by grant capture at programme, centre, and large grant level. This year, in response to COVID-19, we have moved the entire programme online, delivering tailored virtual training to a cohort of 20, which sits alongside the 1-2-1 coaching every cohort member receives so that they can examine their own trajectory with an external coach. The programme is accessed via a transparent application system, developed in partnership with the Organisational Development team, and diverse candidates and experiences are encouraged.

#### Highlight action: Emerging Research Leaders

We will launch an early career *Emerging Research Leaders Programme* to support those at the early stages of their independent academic career to develop the skills they need to lead successful research groups and continue their research trajectory. A transparent application process will encourage those with diverse career experiences and backgrounds to apply, and the provision of mentoring will be built into the programme, recognising the structural barriers which can slow the career progress for some parts of our research community.

- Through the *King's Translational Academy*, run in collaboration with our two Biomedical Research Centres, we will deliver a new training programme in translational research open to a College-wide audience and providing participants with sufficient understanding of translational research to move their own research into this area – acting as a ‘passport’ to entering translational research.

#### Spotlight: NIHR Professorship

Professor Richard Emsley (IoPPN) is a statistician who has been awarded a prestigious NIHR Professorship (one of only 5 nationally, and the first one ever awarded to a methodologist). The professorship aims to implement the use of more innovative clinical trial designs to test new treatments for mental health conditions. In partnership with South London and Maudsley NHS Foundation Trust and the NIHR Maudsley Biomedical Research Centre, the research programme will develop new adaptive and personalised trial designs that allow researchers to speed up the evaluation of new treatments and maximise the involvement of trial participants. A significant aspect of the programme will be collaborating with service-users, clinicians, funders and the public to work out how these trials can best be used in the future. Ultimately this will benefit patients by more efficient trials being funded, quicker delivery of effective treatments and fewer patients being randomized to ineffective treatments.

Richard had taken part in the 2018/19 Leading Researchers Programme.

- We will develop a bespoke *training programme for Heads of Department/School* to provide local leadership within College with the appropriate tools, information and resources needed for their role to be carried out effectively.

### 3.3 Technical Services Staff

King's technical community is essential to the success of the university, working across all areas and disciplines to underpin our world-leading research and education activities. As founding signatory of the Technician Commitment, in 2017 we committed to ensure the visibility, recognition, career development and sustainability for our technical services staff. More recently, we have recognised all technical staff in our interpretation of the Researcher Concordat and have expanded our support for professional development.

- Guaranteeing a 10 days pro rata per year allocation to engage with professional development; including conference attendance.
- Provision of central support to gain and maintain Professional Registration with a relevant awarding body through the Science Council.
- Access to a range of training and mentoring opportunities through the Centre for Research Staff Development.
- The thriving Technical Network provides both peer support and a route for communication to the Senior Management Team.

#### **Highlight action: King's Fellows**

We will launch a major programme across King's to attract the brightest early career academics. We will combine externally funded fellowships (split between 80% research and 20% teaching) with the prospect of a permanent academic position once the fellowship ends (conditional on passing a performance review covering both the research and the teaching elements). Fellowships will be targeted in areas with vacancies or where we are expecting staff retirement and/or student growth.

## 4. Focusing on equality, diversity and inclusion

Difficulties emerging in times of crisis often exacerbate and deepen inequalities, and there are indications that the COVID-19 outbreak is no exception. It is critical, therefore, that while we concentrate on delivering our future vision for King's research, we keep our attention focused on enhancing our commitment to equality and inclusivity.

### 4.1 Athena Swan

King's has a bronze Athena Swan institutional award, and several Faculties hold silver awards. Our recently launched EDI strategy outlines our goals including moving to an institutional silver and Faculty gold awards and sets out detailed plans to achieve them. The overarching areas of focus for our research community are reducing gendered attrition through staff career pipeline; moving towards gender parity in recruiting senior roles; equitably implementing progression, promotion, reward and recognition for staff; enabling flexible working and support for staff returning from a prolonged absence (e.g. maternity and shared parental leave). Action taken to reflect these include:

- Pay equality analysis, which informed a restructure of the Professorial salary system.
- Increased funding and revised approach to the Parents and Carers Fund, which supports those whose caring responsibilities have affected their research.
- Clearer governance: for example, the Equality, Diversity & Inclusion Committee now reports directly to the Senior Management Team (the College's executive committee).

### Spotlight: inequalities research

King's has significant expertise in research which addresses inequalities across society, whether based on race, gender, poverty, or the intersections between these and other areas.

Publications in this area have drawn significant attention from the global research community (with over 40% of outputs in the top 10% for field-weighted citations) and national and international news outlets. Recent high-profile publications include Professor Ben Bowling's Automated Policing: the case of body-worn video and Professor Brian Bell's Top earnings inequality and the gender pay gap: Canada, Sweden, and the United Kingdom.

Research in this topic is underpinned by over £34m of active grants from a wide range of funders including the Wellcome Trust, UKRI and the EU. Awards in this area include the INDIGO Network (International Study of Discrimination and Stigma Outcomes), HERON (Health Inequalities Research Network) and HYPE (Improving the Health of Young People).

### Highlight action: Harold Moody Fellowships

We will launch the Harold Moody Fellowship scheme, a new fellowship scheme aimed at Black candidates that will support 2 excellent researchers every year in the transition to an academic post. Each fellowship will include funding for 2 years, and fellows will be assigned a mentor to offer advice on research and career development.

## 4.2 Stonewall

King's became a Stonewall Diversity Champion member in 2016 and is committed to providing an outstanding research and teaching environment which is underpinned by inclusivity, equity, diversity and opportunity for all members of the campus community, including our lesbian, gay, bisexual and trans community.

## 4.3 Race Equality Action Plan

The Race Equality Action Plan (REAP) has been developed by the Equality, Diversity & Inclusion Team through extensive engagement with ~3,000 staff and students (particularly Black and Ethnic Minority communities) and endorsed by the Race Equality Leadership and Action Team, Senior Management Team and the Race Equality Staff Network. The plan identifies four 'stubborn issues' to be addressed as a priority, including increasing the ethnic diversity of our senior leaders; supporting staff and students discuss race and racism, as well as identify and report racial microaggressions, and for King's to act appropriately; continuing to close King's BME Attainment Gaps and to develop inclusive curricula. Of particular relevance for research are the following initiatives:

- Creation of a post-doctoral research fellowship in the Department of History to explore King's historic links to the trans-Atlantic slave trade.
- Commission of research to uncover the hidden and erased contributions of BME people to our university, and academic disciplines.

## 4.4 King's Civic Charter

King's Civic Charter sets out the university's commitment to London and the communities in which we make our home. The Charter pledges that King's will support our communities in challenging disadvantage and inequality through research, teaching and service activities in collaboration with residents, local authorities, schools, businesses, civil society organisations and community groups.

### Spotlight: Leverhulme Trust Senior Research Fellowship

Professor Elaine Player of the Dickson Poon School of Law has won a Leverhulme Trust Senior Research Fellowship, on Rehabilitation and women prisoners: a study of the therapeutic community. This fellowship on the rehabilitative treatment of an under-researched population of women prisoners, namely those serving long custodial sentences for serious offences. Renewed interest in prison rehabilitation and the proliferation of cognitive behavioural programmes, has led to considerable criticism by feminist writers of the ways in which dominant strategies of risk management translate rehabilitative needs into criminogenic risks.

### Highlight action: targeting inequalities in PGR research

In 2019/20 we launched our Africa International PGR Scholarships, to encourage international students from Africa join King's to undertake a full-time PhD. In addition we are undergoing advanced discussions with our PLS Alliance partners and a range of African universities to build a broader collaboration for PGR training. We will complement this by developing a Scholarship scheme to increase representation of students from lower- and middle-income countries at King's.

In addition, as part of our Race Equalities Charter action, we will set up a Scholarship scheme targeted at local Black communities who are under-represented within our PGR body.

## 5. Facilitating impact, engagement and commercialisation

We firmly believe that our research should have impact, delivering on our vision to make the world a better place. Whether translating research into a marketable product, patenting new technologies and inventions, changing policy and engaging young people, or changing the narratives we tell and our shared cultural agenda. We are fully committed to supporting our academics to maximise the impact of their research.

### 5.1 Partnerships and engagement

We believe that external collaborations and engagement are key to ensuring that our research has a real impact on society, and we are committed to supporting our academic staff as they develop and maintain relationships with external stakeholders (from public services to cultural institutions, and from international organisations to local communities).

- Science Gallery London has been extremely successful in driving innovation and public engagement with science by facilitating new ways to explore research ideas through collaborations with artist and designers. This is part of a university wide strategy to enhance research and education through external partnerships and networks across arts and culture, in the UK and internationally.
- Engagement with national and international government departments, international organisations and specialist agencies is key to ensure that our research has a tangible impact on society by changing practice and influencing understanding, behaviours, policy and culture.
- The integration of cutting-edge research with clinical care is critical to improving the healthcare experience and outcomes for patients and is facilitated by our close connections with our partner NHS Trusts.

### Highlight action: Improving coordination of Research Impact

Whilst in the last year the focus of much of the activity around impact has been on preparations for REF 2021, we will soon be in a position to be able to look to our longer-term strategy for impact. We recognise that within College there are significant opportunities to learn from each other, improving our ability to share resources and best practice.

Led by our Dean of Research Impact, we will undertake a broad consultation to provide a current picture and future recommendations for a revised coordinated cross-college impact strategy and action plan. This will include a review of how impact literacy, development, delivery, evaluation and amplification of impactful research stories, might be enhanced across the College.

### Spotlight: Better Economic Data: Developing New Techniques to Measure the Economy More Accurately

Research by a group of KBS academics has shaped the production of high-profile statistics published by the Office for National Statistics (ONS) and the Republic of Ireland Central Statistics Office (CSO), which are fundamental for the public understanding of economy and society. Prof Martin Weale and colleagues improved the work of the ONS by increasing the precision and granularity of their GDP estimates and by producing a new summary indicator of income growth that is sensitive to household income distribution. Prof Mary O'Mahony developed new measures of human capital and helped the CSO to develop new measures of productivity growth. Dr Augustin De Coulon, working with Prof Jonathan Portes from the Department of Political Economy, contributed to new, improved measures of migration. This King's research was supported by and mediated through the Economic Statistics Centre of Excellence (ESCoE), a research centre associated with the ONS.

## 5.2 Commercialisation

The paper “*Commercialisation and Industrial Partnerships: A roadmap for implementation*” was approved by King’s Senior Management Team in February and proposed a restructuring of the IP & Licensing and Commercialisation Institute teams into a single operational unit. This comes alongside a new, nascent industry partnerships function, and specific activities to create a joint venture across KHP in MedTech, with matching innovation fund.

The new single IP&L structure has just been operational and will have:

- Increased number of FTE in tailored roles to drive the growth of an expanded IP asset (enabled by an increased patent budget) and IP transaction portfolio, with efforts directed to developing projects, marketing and commercialisation.
- A single brand and point of access/ reference info for staff (web presence) and a single set of operating procedures but a wider membership and participation of forums that receive and review opportunities (the “New IP” and “Commercialisation” Committees).
- A single reporting line into senior management.

These changes will aim to:

- Increase translational literacy of staff, disclosure of innovations and the proportion of disclosed innovations that can be supported.
- Grow (1) the volume of innovations supported, (2) marketing activities supported, (3) the volume of innovations actively transacted from the portfolio, (4) the support that can be offered to newly established spin outs and (5) the volume of revenue or equity achieved through transactions.

### Spotlight: Quell Therapeutics

Quell Therapeutics was founded by King’s academics in March 2019, in the exciting field of T regulatory cells (Tregs). Tregs are a subset of T cells capable of down regulating the immune system. Quell Therapeutics is developing therapies which harness the suppressive capacity of Tregs to address several conditions of immune dysfunction utilising gene-modified cells. The company aims to address a range of conditions including solid organ transplant rejection, autoimmune and inflammatory diseases. Syncona led the Series A financing committing £34m with a further £1m being contributed by UCL Technology Fund.

<https://quell-tx.com/>

### Highlight action: Joint Venture (King’s College London and GSTT)

A Joint Venture (JV) between King’s and other KHP partners will create a vibrant MedTech Accelerator ecosystem that will accelerate the development of new MedTech innovations, supporting venture building from proof of concept through development, and ultimately a successful exit. The JV MedTech Accelerator will form an integral part of the South Bank MedTech Hub initially operating from Beckett House at the St Thomas’s campus in close collaboration with the London Artificial Intelligence Centre for Value Based Healthcare. The JV MedTech Accelerator will provide Med Tech start-ups and projects with serviced office accommodation if required and also support

### Highlight action: South London Innovation District

The Innovation District is a geographical cluster connecting the university, King's Health Partners NHS Trusts, and industry (both SMEs and large companies) across South London. The synergies between academic research and education, the KHP clinical substrate, and commercially-focused research combined with the fertile innovation environment offered by the MedTech Accelerator will form an internationally-recognised cluster, delivering world-class research, attracting investment, improving health and creating technology-driven approaches for healthcare sustainability.

Lambeth and Southwark Councils, alongside the Greater London Authority, will play a key role in supporting and enabling the creation of the innovation district.

### Spotlight: RAEng Enterprise Fellowship

Dr Michael Ebner was awarded a prestigious Enterprise Fellowship from the Royal Academy of Engineering to support the development of a novel lightweight camera system that helps surgeons differentiate tumour from healthy tissue and translate the technology into a commercial device.

The prize is awarded to support outstanding entrepreneurial engineering researchers, working at a UK University, to enable them to develop the skills to spin-out a business around their technological idea.

With the support of the RAEng, Dr Ebner and Professor Tom Vercauteren (RAEng Research Chair in Machine Learning for Computer-Assisted Neurosurgery), have co-founded a university spin-out, Hypervision Surgical Ltd, to refine the prototype and develop the technology into a commercial device.

### Spotlight: King's-Globe Partnership

King's and Shakespeare's Globe have a long shared history – we have collaborated closely on our highly successful MA Shakespeare Studies for twenty years now – and we are currently strengthening and deepening the relationship, particularly on the research side. Farah Karim-Cooper, head of higher education and research at the Globe, is now also a Professor of Shakespeare Studies at King's, and we plan over the next year to bring the work of the London Shakespeare Centre and Globe Research into greater harmony with a view to sharing both major research projects (in addition to current King's grants on Shakespeare and war, Shakespeare and the Royal Collection, and the gendering of the early modern stage) and key diversity initiatives, notably the 'Early Modern Scholars of Colour Network' that Professor Karim-Cooper has developed from the 'Shakespeare and Race' symposia she established at the Globe and that is being championed by her and by Professor Lucy Munro at King's.

### 5.3 Industry partnerships

King's has had some significant success in creating research partnerships with industry, including strategic partnerships with Siemens, Nvidia, GSK, UCB and others. However, these do not reach into all parts of the university and have often been created and managed in an *ad hoc* manner. By professionalising and increasing the scale of our industry research partnership development and management, we can bring the benefits of this type of activity to research across the university and ensure consistency of approaches. We can also ensure that our research culture and values are adequately represented across all our partners. We have recently begun the process of creating a new (small) cross-university team to coordinate industry research partnerships, and the level of engagement from industry has been very high. The new industry partnerships function aims to create, support and enhance long-term, strategic research partnerships with industry, across the university's research activities, starting with biomedicine and engineering.

## 6. Enhancing the research infrastructure

Providing world-class research infrastructure is essential to ensure that our discovery research remains at the cutting edge, and that it can be translated rapidly and effectively into societal impact. It also plays a central role in our ability to attract and retain the best academics across a wide range of disciplines. We will continue to support, enhance and expand our core facilities, while increasing our strategic oversight.

### 6.1 e-Research

High performance computing and data storage are critical for a wide range of research undertaken at King's but have suffered from under-investment in the past few years. This was underlined by a recent external review (undertaken in 2018/19 by Paul Bonnington, Director of eResearch, Monash University), which confirmed that King's fell well short of providing top quality service and support. In response to the recommendations we have developed an action plan that we have started to implement, and which remains a priority for King's Research in the coming 12-18 months.

#### Highlight action: pump-priming for research software development

At King's we recognise the critical role that research software plays in advancing our knowledge, as well as the challenges the software development community faces in getting support for their research.

We will launch a pump-priming call to facilitate the development of software for experimental facilities and instrumentation, modelling, simulation and data analysis. We will support both the development of novel code and the development of new functionality for, or re-

- *Leadership and support.* We have hired a new Director of the e-Research function and key additional senior personnel to support various aspects including high-performance computing.
- *Infrastructure and facilities.* We are also in the process of delivering a new data storage facility and replacing our obsolete high-performance computing capacity. We anticipate the data storage facility will be in place before the end of 2020 and the HPC facility before the end of 2021.

#### Spotlight: Artificial Intelligence and Autonomous Systems

We have recently invested in the creation of the *King's Institute for Artificial Intelligence* (funded through the King's Together scheme), led by Prof Michael Luck, that will act as a focal point for the College's wide-ranging activity in AI. The Institute draws together expertise from across King's building ties across disciplines, from core technical areas (e.g. computer science, engineering) to areas such as policy, ethics, law, health, economics, politics and the breadth of application domains.

The *London AI Centre for Value-Based Healthcare* has been established, with £26m of funding from UKRI alongside industry contributions of c.£10m. The Centre, led by Reza Razavi, combines the potential of artificial intelligence with the substantial patient data within King's Health Partners and NHS Trusts across the South East. It aims to produce transformative health and economics benefits by using AI to transform patient care pathways, across a wide range of clinical areas.

King's jointly hosts the *UKRI Trustworthy Autonomous Systems Hub* (a five-year investment of c.£12m from UKRI's Strategic Priorities Fund) which will lead and co-ordinate a UK-wide multidisciplinary research effort to ensure autonomous systems are trustworthy by default and deliver the maximum benefit to society and industry.

## 6.2 Research Platforms

Our research platforms provide a key aspect of our research environment, and include a variety of high-end, distinctive capabilities that differentiate us from competitors. Recent additions to our platforms include:

- The opening of the London ultra-high field MRI Clinical Research Facility, supported by Wellcome Trust, at St Thomas' Hospital. This features the UK's first clinically-embedded, whole body 7T MRI scanner. (Director: Professor Jo Hajnal)
- The creation of the Microscopy Innovation Centre at Guy's Campus – a new facility (supported by the MRC and BBSRC) for the development and uptake of cutting-edge optical microscopy methods for biological imaging, working alongside the Nikon Imaging Centre at King's. (Director: Professor Maddy Parsons)
- The revamped Proteomics core facility provides high resolution peptide and protein mass spectrometry analysis to a wide array of projects; linked to this, the London Metallomics Facility provides national leadership for this area. These facilities are supported by Wellcome and BHF. (Directors: Professors Manuel Mayr, Phil Blower)
- The team of research software engineers based at King's Digital Lab provides state of the art e-Research solutions to researchers working across the full span of the humanities and social sciences. They build web applications and use data modelling, data visualization, machine learning, and emerging technologies such as virtual and augmented reality to answer colleagues' research questions. (Director: Dr James Smithies)

Within *Biological services*, we will develop new systems to provide increased support to researchers around compliance checks, Home Office licenses, and related procedures.

### Highlight action: A commitment to sustainability

King's has made the ambitious commitment to achieve net-zero carbon emissions by 2025, and while significant progress has been made (41% reduction between 2005-06 and 2018-19), there is still much to do.

Laboratories are essential to scientific research, discovery, learning and innovation. They also require immense investments of energy and materials, and represent approximately two thirds of energy consumption within King's. A typical laboratory will consume 3-10 times more energy than the same non-laboratory spaces, while 1.8% of global plastic waste was estimated to have originated from laboratory settings.

With a growing urgency to mitigate our environmental impacts, laboratories represent an opportunity for incorporating sustainability into operational and research practices.

The recently launched Laboratory Efficiency Assessment Framework (LEAF) aims to be a standard in sustainable science, akin to health & safety standards. It contains set criteria for labs to work towards, and helps users quantify their impacts both in financial savings and CO<sub>2</sub> reductions.

In 2019/20 we successfully joined the first LEAF pilot, and recorded significant savings were reported from procurement, waste, and energy). In the next 12-18 months we aim to expand uptake of LEAF, as well as set up a new Sustainable Science Committee to provide a forum for the review and approval of the various support systems laboratories require, with a focus on efficiency and environmental sustainability.