Crick Early Career Group Leaders in Physical Sciences applied to Biomedicine

King’s College London is presently engaged in a major strategic development of Science and Technology in the University. As part of this, the Faculty of Natural and Mathematical Sciences is seeking to recruit outstanding researchers in Chemistry, Informatics, Mathematics and Physics whose research lies at the interface with biomedical sciences.

The Francis Crick Institute’s recruitment programme for Early Career Group Leaders in Physical Sciences applied to Biomedicine represents an outstanding opportunity for such researchers to establish their independent research programmes at the Crick, before moving to an established academic position in King’s in one of the Departments of Chemistry, Informatics, Mathematics and Physics.

About King’s

Please see the link below for supporting information for prospective applicants. This also includes some background information about the university including rankings, research outputs, King’s Health Partner Trusts and our current fundraising initiative. www.kcl.ac.uk/aboutkings

About the Faculty of Natural & Mathematical Sciences

The Faculty of Natural & Mathematical Sciences comprises the Departments of Chemistry, Informatics, Mathematics and Physics. All areas have highly-rated research activities and the Faculty offers a wide-ranging portfolio of undergraduate, postgraduate taught and PhD programmes. Our work crosses traditional subject boundaries creating cutting-edge research that provides opportunities to engage in multidisciplinary activities across the university, and to develop partnerships with external groups in industry. Importantly, each department has a vibrant research environment, where students work with, and learn from, world-leading academics while benefitting from an open door policy and a wealth of support. The Faculty has around 2,300 undergraduate and postgraduate students and 180 academic staff, with significant growth planned for the future. It is supported by around 75 Faculty and departmental professional services staff, together with colleagues in central directorates, including admissions, HR, research and management accounting services.

It’s an exciting time to join us. The Faculty is embarking on a period of ambitious growth, supported by significant university investment, which aims to build upon our current strengths, to deliver world class research, education and innovation. This applies to our core areas of mathematics, physics, chemistry, computer science, telecommunications, robotics, bioinformatics and biomedical engineering, as well as expansion into broader engineering and other areas that complement our current portfolio. Our vision is to establish King’s as an outstanding institution in science and technology, competitive with the world’s best, by broadening the range of our disciplines and
maintaining their quality. At the same time, we give high priority to fundamental research that can require years to achieve widespread recognition. We aim to be distinctive and bold, by strengthening our individual departments in their disciplinary identities and their participation in broader cross-King’s interactions.

Our unrivalled central London location offers easy access to major research libraries and leading scientific societies such as the Royal Society, Royal Society of Chemistry, BCS, Institute of Physics, IET, IMechE and the London Mathematical Society. We are committing significant investment to the development of our estate, with major capital projects on many of our campuses, including the Bush House complex on the Strand campus (which will provide new teaching facilities, social areas, office space and student space) and investment in a variety of new laboratories for our experimental disciplines.

We are very proud of the tradition of excellence within the Faculty, which includes a history of high levels of research funding and a number of Nobel Laureates from among our distinguished former staff and students, and we are working hard to promote the careers of women working in science, engineering and technology. In September 2014, the Faculty was awarded the Athena SWAN Bronze Award in recognition of our commitment to gender equality, and several departments are now working on Silver applications. Our work in this area is helping us to identify best practice for the working environment of all staff working in our Faculty. You can find out more at http://www.kcl.ac.uk/nms/WomeninScience/.

Supporting our staff is important to us. For parents we offer a Parenting Leave Fund of up to £10k for academic and research staff working in all disciplines returning from a career break, as well a childcare voucher scheme which enables eligible staff to make savings on the cost of childcare through a 'salary sacrifice' agreement. For carers we offer a Carer’s Career Development Fund to support academic and research staff with the additional care costs associated with attending conferences and events outside normal working hours. Staff are able to apply for flexible working to help them to balance the demands of their professional and personal commitments and we offer comprehensive leave policies for maternity, paternity, adoption, surrogacy, dependants and shared leave. We have a variety of diversity and inclusion networks at King’s, overseen by the King’s Diversity Community Steering Group and an active LGBT+ Staff Network which runs events throughout the year. We’re also keen to help our staff to develop their careers, and we offer a clear and transparent academic promotion process, including briefing sessions for staff and feedback from our Faculty Academic Staffing Committee on draft applications.

We are international in our outlook. Our staff across the Faculty come from over 45 countries, with around two-thirds coming from outside the UK, and around 40% of our students are from the EU and the rest of the world. Collegiality is important to us, and we host a series of social events for all staff and PhD students in the Faculty to provide an informal setting for colleagues to socialise and connect with one another, including themed coffee mornings, occasional evening events and an annual summer picnic for staff and their families. We also organise lunches for new staff, to help them to meet new colleagues across the Faculty. For professional services staff, we run an Information & Skills programme, which offers bite-sized sessions on a range of topical issues and provides the opportunity for staff across the Faculty and wider university to share their expertise. Recent sessions include an EU Referendum briefing, an update on our Athena SWAN submissions, mindfulness and the use of social media.

Details of all our departments and programmes are on the Faculty of Natural & Mathematical Sciences website at www.kcl.ac.uk/nms.
About the Department of Chemistry

Our contemporary Chemistry Department provides an exciting place to explore the boundaries of the subject. With a pedigree as one of the oldest Chemistry Departments in England, King’s Chemistry enshrines the rigour of the discipline in a progressive context. Continuing an illustrious tradition at the University, epitomised by the discoveries of Rosalind Franklin and Maurice Wilkins in the structure of DNA, the department has a distinct focus on understanding the chemistry of life and the interface with Biology. Our vision is to create a ground-up integrated interdisciplinary department best equipped to tackle the most important challenges facing our society. This vision is being realised by significant investment. The department is undergoing considerable expansion, and currently consists of 17 research-active groups, with phased future recruitment planned to reach around 30 over the next 5-10 years. New staff thus join at an exciting time and will be instrumental in shaping the future of Chemistry at King’s.

Our current strengths lie in innovative chemical biology – successfully fusing cell biology, state-of-the-art biophysical method development, and synthetic and inorganic methods that create and probe small biomolecules. In particular, there is a focus on designing and studying protein assemblies, probing natural membranes, creating synthetic membranes, and devising new chemical tools to investigate cellular events. Our imaginative, interdisciplinary research provides the foundations for innovations in Chemical Biology, Biomaterials Science, Synthetic Biology and Nanomedicine. Expansion will see us enhance and develop our research base through interactions with King’s Health Partners and concerted action in new initiatives at King’s, including biophysics and soft matter research. A strategic priority of the department is fostering links with the Sir Francis Crick Institute.

At present the teaching base is the Franklin-Wilkins Building at the Waterloo campus and the department’s research activity is centered on Britannia House at Guy’s campus. Britannia House is undergoing a programme of refurbishment to create modern chemistry and interdisciplinary research laboratories, together with a range of new state of the art equipment including dedicated NMR, mass spectrometry, imaging and fabrication facilities. Plans are being developed for new purpose-built space to accommodate the future growth of Chemistry at King’s.

Teaching in the Chemistry is research-led, and mirrors our interdisciplinary, and predominantly biological focus. Four year integrated Masters (MSci) and (BSc) courses are offered in both Chemistry and Chemistry with Biomedicine. These programmes have been designed to impart a rigorous theoretical and experimental understanding of chemistry, delivered within the context of biomedical applications. Students gain a thorough chemical education plus a perspective on, and experience of, diverse practical applications of chemistry that lays down a basis for flexible, interdisciplinary training. http://www.kcl.ac.uk/nms/depts/chemistry/study

Please visit the department’s website for further information: http://www.kcl.ac.uk/nms/depts/chemistry/index.aspx

For informal enquiries, please contact the Head of Department:
Professor Paula Booth <hod-chemistry@kcl.ac.uk>.
About the Department of Informatics

The Department of Informatics was formed in August 2010 as a combination of the former Department of Computer Science with the Robotics and Telecommunications groups from the former Division of Engineering. The Department currently has six research groups:

- Agents and Intelligent Systems
- Algorithms and Bioinformatics
- Centre for Robotics Research
- Centre for Telecommunications Research
- Planning
- Software Modelling and Applied Logic

A key challenge for all members of the Department has been to develop research collaboration between the six principal research groups, and to develop interdisciplinary research and teaching initiatives with other departments in the Faculty of Natural and Mathematical Sciences and the College. In the 2014 Research Excellence Framework (REF), Informatics at King’s was rated as having 92% of its research outputs as world leading or internationally excellent. The 2014 REF results placed the Department in the Top 10 of Computer Science and Informatics Departments in the UK, when measured by the Power Ranking.

The Department of Informatics runs several undergraduate programmes, including the BSc Computer Science, BSc Computer Science with Management, BSc Computer Science with Intelligent Systems, BSc Computer Science with Robotics, and associated MSci degrees as well as a suite of undergraduate Electronic Engineering programmes. There are currently approximately 600 full-time undergraduate students.


There are currently approximately 200 MSc students. The Department of Informatics is keen to expand its postgraduate research programme, in which there are currently approximately 150 PhD students. There are currently around 50 full-time academic staff, supported by teams of professional services and technical staff.

Please visit the department’s website for further information:
http://www.kcl.ac.uk/informatics

For informal enquiries, please contact the Head of Department:
Professor Luca Vigano <luca.vigano@kcl.ac.uk>
About the Department of Mathematics

King’s College London has had a distinguished scientific tradition since its foundation in 1829. The Department has a record of outstanding accomplishments in central areas of pure and applied mathematics. It has six internationally recognised research groups: Analysis, Disordered Systems, Financial Mathematics, Geometry, Number Theory and Theoretical Physics; and a newly established group in Statistics. In the 2014 REF, it ranked fourth among mathematical sciences units in the UK in terms of the quality of its research Outputs, with 31% of its work judged to be 4* (world leading).

The Department is also committed to educational excellence. It currently teaches almost 600 students at undergraduate level, and over 100 taught graduate students. It awards 3 and 4 year (BSc and MSci) degrees in Mathematics, as well as several joint honours degrees including a BSc in Mathematics with Management and Finance. It offers four MSc programmes: in Mathematics, Financial Mathematics, Complex Systems Modelling and Theoretical Physics. Each of the seven research groups trains PhD students, some of whom are funded by one of two EPSRC Centres for Doctoral Training, by STFC grants, or by EU research networks, and others by University awards or teaching assistantships.

The Disordered Systems group is at the forefront of research in statistical mechanics of disordered and complex systems. The research of the group concentrates on the development of new methods to tackle both fundamental issues, for example in non-equilibrium systems, and a broad range of applications to complex systems of many interacting units. The latter include mathematical systems biology and quantitative medicine (protein, metabolic and immune networks & network ensembles) as well as links with statistics and informatics in the area of Bayesian statistical inference and machine learning. The Statistics Group was founded in 2015 and is continuing to expand, with research strengths in the design and analysis of experiments, time series and Markov chain Monte Carlo and sequential Monte Carlo methods.

The Institute for Mathematical & Molecular Biomedicine (IMMB) is a joint initiative of the Faculties of Natural & Mathematical Sciences (NMS) and Life Sciences & Medicine (LSM), and has close links with the Department of Mathematics (in NMS) and the Randall Division of Cell and Molecular Biophysics (in LSM). The IMMB aims to spearhead the College’s research and teaching activities at the interface between biology, medicine, mathematics and computation. It aims to be a leading international research centre devoted to the development of quantitative tools for biomedical problems, and an efficient source of mathematical and computational expertise for biomedical researchers. It is located at the College’s London Bridge campus.

The Department supports the London Mathematical Society’s Good Practice Scheme for advancing women’s careers in university mathematics departments.

Please visit the department’s website for further information:
http://www.kcl.ac.uk/nms/depts/mathematics/index.aspx

For informal enquiries, please contact the Head of Department:
Professor Simon Salamon <hod-maths@kcl.ac.uk>
About the Department of Physics
The study of Physics at King's dates back to the foundation of the College in 1829. The Department has an illustrious history. The first Professor was the polymath Sir Charles Wheatstone and other former professors include James Clerk Maxwell, whose outstanding work unifying the equations of electromagnetism took place during his time at King’s. He also took the first colour photograph in that period. Later, the Department was home to several Nobel laureates: Appleton, Barkla, Richardson and Wilkins. The seminal x-ray crystallography work by Maurice Wilkins and Rosalind Franklin, which led to the discovery of the structure of DNA, took place in the Physics Department.

More recently, in 2013, two alumni of the Department, Professor Peter Higgs FRS and Professor Michael Levitt FRS were honoured with the Nobel Prize for Physics and Chemistry, respectively.

The Department is currently undergoing significant growth with substantial investment in new appointments, research infrastructure and laboratory space refurbishment. King’s College London is now embarking on a major new strategic investment in Science and Technology, and it is intended that the Department should grow further, both in staff and student numbers, over the next few years.

Current research in the Department is focused on theoretical particle physics and cosmology, the theory & simulation of condensed matter, and experimental biophysics and nanotechnology. The Department has excellent interdisciplinary links to the other science disciplines and medicine within King’s, and enjoys strong partnerships with complementary world-class activities in other London institutions and beyond including the Francis Crick Institute, the London Centre for Nanotechnology, the London Thomas Young Centre, and CERN. In the 2014 UK Research Excellence Framework, 90 per cent of the Department’s research output was graded 4*-3*, where 4* represents world-leading in terms of originality, significance and rigour.

Our teaching is very much led by research. We offer a range of UG courses in both three-year (BSc) and 4-year (MSci) versions together with a Physics Foundation Course. The courses include Physics, Physics with Theoretical Physics, Physics with Medical Applications and Joint Honours programmes in Physics and Philosophy, Mathematics and Physics. We are also planning to develop new Physics with Biophysics and Physics with Astrophysics and Cosmology courses. We also offer a one-year, MSc programme in Physics. Students on this programme, along with those studying for MSci degrees, have access to modules taught collaboration with other colleges of the University of London [UCL, Queen Mary and Royal Holloway] offering a very rich choice of material.

A theme of our teaching is the importance of personal interaction and the development of student skills. It is a warm, friendly department, with an inclusive culture and excellent relations between staff and students, who report high levels of satisfaction and have excellent employment prospects. We are fortunate to have high quality staff from all over the world, France, Germany, Italy, USA, Russia, Greece, Spain and many more. The diversity of our staff is something we celebrate along with the diversity of our students, who also come from a broad range of backgrounds. We are also fortunate in having a gender ratio amongst our students which has 50% higher ratio of women than the national average.

The Department is large enough to be well above the critical mass for an internationally competitive physics department but small enough to retain a friendliness and collegial mentality. Diversity is positively encouraged with a number of family-friendly policies, including the operation of a core-hours policy, the right to flexible working and to a reduced workload following periods of extended absence, for example maternity leave. We offer high levels of support for disabled students and staff. There are regular social events and the Departmental ethos is that we support each other and work as a team.

Research in biophysics and biological physics in the Department of Physics currently encompasses super resolution imaging, fluorescence microscopy, Raman spectroscopy and single molecule mechanics, combined with coarse-grained and all-atom simulations. It is closely linked to related research within the Department of Chemistry and the Randall Division for Cell & Molecular Biophysics (which has two joint appointments with Physics), with active collaborations with
researchers across the Faculty of Life Sciences and Medicine and the Dental Institute in King's College London. The Department is in the process of establishing a new undergraduate degree in Physics with Biophysics, reflecting both on the Department's tradition in this area from the Nobel prize-winning group established by Sir John Randall in the 1950s, as well as its vibrant and growing research in this area today. This new programme involves the creation of a suite of new modules at all levels.

Please visit the department’s website for further information:
http://www.kcl.ac.uk/physics

For informal enquiries, please contact the Head of Department:
Professor Peter Main <peter.main@kcl.ac.uk>

About Biomedical Sciences at King's

King's College London is a major centre for biomedicine, with King’s Health Partners (KHP) one of five Academic Health Science Centres in the UK, providing a strong pathway to impact for research at the physical-life sciences interface. King's is, with Imperial and UCL, one of the three university partners of the Francis Crick Institute.

Research in biomedical sciences is found in three Faculties at King's, the Faculty of Life Sciences and Medicine, the Institute of Psychiatry, Psychology & Neuroscience, and the Dental Institute. The King’s BioScience Institute (KBI) has been created to develop and enable an integrated and cohesive approach to scholarship in biomedical research across King’s.

Location

The Departments of Informatics, Mathematics and Physics are located on the Strand Campus of King’s College London, along the banks of the River Thames in the heart of London. The Department of Chemistry is located in Britannia House a few minutes walk from the Guy's Hospital Campus, which is at London Bridge, adjacent to the Shard. The Strand and Guy's campuses are about a 20 minute journey by public transport from one another and from the Francis Crick Institute.

Further Information

For further informal discussion about King's College London and the recruitment programme for Crick Early Career Group Leaders in Physical Sciences applied to Biomedicine, please contact Professor David Richards, Vice-Dean (Research) of the Faculty of Natural & Mathematical Sciences david.r.richards@kcl.ac.uk.