

THE PROFESSORSHIP OF CLINICAL MICROBIOLOGY
DEPARTMENT OF MEDICINE

1 The Professorship

Background

Infectious Diseases are a major area of importance in national and international health. On the international front, established infectious diseases (such as tuberculosis, malaria and HIV) remain problems of global importance, and new challenges are presented by emerging infectious diseases. Within the UK, hospital-acquired infections and increasing antimicrobial resistance present major problems for the NHS. There are new opportunities for advances in laboratory diagnosis and understanding microbial virulence, particularly consequent on the ability to rapidly sequence microbial genomes and apply novel molecular techniques to diagnosis.

The Professorship in Clinical Microbiology has been established for a number of years within the Department of Medicine, with the previous appointment being held by Professor Sharon Peacock. The position is funded in part by the University of Cambridge, Public Health England and the Cambridge University Hospitals Foundation Trust. The candidate will work closely with the diagnostic microbiology laboratory or other clinical services at Addenbrooke's as well as the various research teams working in the area of infectious diseases. They will benefit from a strong research environment and the excellent facilities available within the Department and the University, and in particular will have access to containment facilities up to CL3 and various core infrastructure including high throughput microbial phenotyping and sequencing in the new Cambridge Institute of Therapeutic Immunology and Infectious Disease.

Selection Criteria

Candidates will be considered for the post on the basis of selection criteria outlined below, which they are asked to address in their application.

- The Chair will cover any aspect of microbiology, broadly construed.
- The Professor will be clinically qualified in any area of medicine provided their focus is on infectious disease. They will be, or will be able to become registered to practice in the UK and contribute to the NHS Medical Microbiology or other clinical service.

- The vision, leadership experience and enthusiasm to build on current strengths in maintaining and developing a leading research presence, and an established record in attracting research grant support to further this development.
- The ability to further the academic planning and strategic development of infection-related research in the University and, where appropriate, to facilitate its development within the UK.
- The ability to manage and interact effectively with staff and students at all levels.
- An enthusiastic commitment to the recruitment, training and mentoring of the next generation of researchers, including undergraduate clinical trainees and medical students, research students, and postdoctoral research fellows.

2. The Department of Medicine

The Department of Medicine provides high quality research, teaching and patient care. It is the largest Department in the School of Clinical Medicine, comprising 12 divisions with each aligning to clinical specialties within the NHS. It houses 27 Professors and over 550 directly employed members of staff and students. The Department's base is over 5 floors in the main building of Addenbrooke's Hospital, the MRC Laboratory of Molecular Biology University Research Unit, the West Forvie site and GSK building, with members also based in other sites around the Cambridge Biomedical Campus including the Cambridge Institute of Medical Research, Cancer Research Institute and Institute of Metabolic Science. Members of the Department currently hold research grants totalling in excess of £135m. The Department has a large and active research programme with a broad aim to understand disease processes at the molecular level and to apply this knowledge to clinical management. There are core facilities to support small animal, clinical investigation, microbiology, genomic, flow cytometric and proteomic work, and the campus has superb facilities for imaging.

A new institute, the Cambridge Institute for Therapeutic Immunology and Infectious Diseases (CITIID), has been funded by a £25 million competitive grant from HEFCE, with additional funding from the Wolfson Foundation. This new Institute will unite expert groups in infectious disease and immunity including the microbiome, autoimmune disease, cellular immunology, and inflammatory disease. There will be associated strengths in genomics and genetics. Dedicated groups will focus on computational biology, in collaboration with the MRC Biostatistics Unit, The Wellcome Trust Sanger Institute and the European Bioinformatics Institute.

This new Institute will have a major focus on infection of direct relevance to the

Chair, with state-of-the-art biological containment facilities funded by the Wolfson Foundation. Recent recruits include Professor Lalita Ramakrishnan (Nat Acad Sci USA), Professor Stephen Baker (OUCRU Vietnam) and Professor Gordon Dougan FRS, FMed Sci.

CITIID will be housed in the Jeffrey Cheah Biomedical Centre due to open in 2018, and will benefit from proximity to the division of Experimental Medicine and Immunotherapeutics (EMIT), which is housed in the adjacent Addenbrooke's Centre for Clinical Investigation that provides world-class facilities for experimental medicine and early and late phase clinical studies. The new Institute will also incorporate the Molecular Immunity Unit embedded within the MRC Laboratory of Molecular Biology, which provides state-of-the-art facilities for the molecular dissection of immune mechanisms. Strong links, including numerous joint appointments, exist with the Wellcome Trust Sanger Institute, providing strength in genetics and genomics.

There is a major focus on interaction with industry, reinforced by the long-standing presence of the GSK Cambridge Clinical Unit on the Biomedical Campus, and more recently by the arrival of the global research and corporate headquarters of AstraZeneca/Medimmune. Interaction with industry formed a key part of the successful HEFCE application to fund CITIID. The research environment in Cambridge is also greatly strengthened by support from the NIHR Biomedical Research Centre, and of particular relevance is the NIHR BRC Human Immunophenotyping Hub, which will expand over the next five years.

2.1 Research

A major strategic focus of the Department is Immunity and Infection. To support this, the Department recently established a research unit focused on molecular immunity embedded within the MRC Laboratory of Molecular Biology.

In the five years since the Chair was established, the profile of clinical microbiology research within the University has advanced dramatically. Academic links with the Wellcome Sanger Institute at Hinxton have facilitated studies utilizing whole genome sequencing of bacteria. This has led to a number of high profile publications. The use of sequencing technology to investigate and manage outbreaks of MRSA within the Rosie Hospital received particular attention and was of major benefit to the Trust in terms of controlling the outbreak, patient outcomes and favorable publicity. The research group working under the direction of the Chair has developed close links with the PHE microbiology department and the Trust infection control team to understand and control transmission of resistant organisms within the healthcare environment. It is noteworthy that the Trust has recently publicised the fact that there have been no Trust-acquired MRSA blood-stream infections since February 2014, a period of nearly four years. The potential importance of this Chair will also be strengthened by the planned move of PHE to Harlow. Work in this area is also further underpinned by a significant award through the NIHR Cambridge

Biomedical Research Centre for a theme on Antibiotic Resistance.

2.2 Teaching

The post will be primarily focused on research and teaching (in a 90:10 ratio), the latter predominantly of postgraduate research students. The clinical commitment of the post is flexible and will be negotiated with the applicant, but active engagement with the clinical service is expected.

2.3 Staffing: NHS and University

In Cambridge University Hospitals NHS Foundation Trust (CUHFT), the diagnostic microbiology service is contracted to the Public Health England (PHE) which provides a service for CUHFT and Papworth Hospitals, and for the Primary Care Trusts, and a wider Regional Laboratory service for the Eastern Region. This service works closely with the academically led Infectious Disease service in CUHFT. Teaching of clinical microbiology and infectious disease to clinical medical students is currently shared between the PHE staff and staff in the Department of Medicine.

2.4 Clinical Service

The integrated job plan comprises 10 programmed activities as approved by the Medical Director and Head of the School of Clinical Medicine (the Regius Professor of Physic). A meeting of the appointee, Head of University Department and Clinical Director will be convened by the Head of Department to take place within three months after starting, so that the full details of the clinical aspects of the job plan can be discussed and agreed in the light of the nature and intensity of the NHS clinical duties and overall staffing available. This clinical service can be in any speciality with a focus on infectious disease, including but not limited to medical microbiology or infectious disease medicine.

3. Public Health England

Public Health England provides strategic leadership and vision for protecting and improving the nation's health. Its ambition is to lead nationally and enable locally a transformation in the health expectations of all people in England regardless of where they live and the circumstance of their birth. It will achieve this through the application of research, knowledge and skills. Public Health England is an executive agency of the Department of Health, and was formed on 1 April 2013. It is a distinct delivery organisation with operational autonomy to advise and support Government, local authorities and the NHS in a professionally independent manner.

The new PHE National Infection Service (NIS) brings together all of the PHE microbiology laboratory services and activities from the former Centre for Infections (CfI), the former Specialist Microbiology Services (SMS) and the former Centre for Emergency Preparedness and Response (CEPR). It also includes PHE Field Epidemiology Services (FES) and Development and

Production based at CEPR. There are approximately 2,000 members of staff in the division.

With the abolition of the regional NHS structure, PHE has changed the designation of the Regional Laboratory to the Lead Public Health Laboratory (LPHL) and has taken the opportunity to make some boundary changes. There are eight LPHLs based throughout England in various locations including; Birmingham, Bristol, Cambridge (this laboratory), Leeds, London, Manchester, Newcastle and Southampton, that provide clinical and public health diagnostic microbiology.

4. The University of Cambridge

The University of Cambridge is one of the world's oldest and most successful Universities, with an outstanding reputation for academic achievement and research. It was ranked fourth in the 2017 QS World University Rankings and its graduates have won more Nobel Prizes than any other university in the world. The University comprises more than 150 departments, faculties, schools and other institutions, plus a central administration and 31 independent and autonomous colleges.

The University and the Colleges are linked in a complex historical relationship. The Colleges are self-governing, separate legal entities which appoint their own staff. They admit students, provide student accommodation and deliver small group teaching (supervisions). The University awards degrees and its faculties and departments provide lectures and seminars

5 The University Environment

5.1 The Cambridge Biomedical Campus

The Cambridge Biomedical Campus, located on the southern edge of Cambridge, contains the University School of Clinical Medicine with its 12 Departments and associated Institutes. Also on campus is Addenbrooke's Hospital, the major University Teaching Hospital with 1000 beds and a comprehensive range of regional services, serving the whole of the east of England.

The Campus is also home to the Medical Research Council's Laboratory of Molecular Biology (11 Nobel Prizes) and other smaller intramural units and the GlaxoSmithKline Clinical Research Facility. AstraZeneca is re-locating its global Headquarters and a substantial portion of their R&D resource to the Biomedical campus in 2019, representing a £330m investment. In 2018 Papworth Hospital will move to a new state of the art hospital on the Biomedical campus. Together, the partners are intending to double the size of the Cambridge Biomedical Campus by 2020.

Within the local Cambridge environment are the University's main Biological Science campus on the Downing Site in the centre of Cambridge, with its great

strength in relevant underpinning Biological Science disciplines, whilst to the south are the Babraham Institute (funded by the BBSRC) and the Hinxton Genome Campus with the Wellcome Trust Sanger Institute and the European Bioinformatics Institute. This “Cambridge cluster” of biotech companies includes many with their origins in University research.

This co-location in Cambridge of a major Regional University Hospital, University Medical School and Research Institutes and a strong pharmaceutical industry presence on a single campus, together with these surrounding strengths in Biological Science in a 5-mile radius is unusual within the UK and offers an exceptional environment for the highest quality collaborative biomedical research and its translation into clinical practice.

5.2 The School of Clinical Medicine, University of Cambridge

The School of Clinical Medicine, University of Cambridge aims to provide leadership in education, discovery and healthcare. The School will achieve this through: inspirational teaching and training, outstanding basic and clinical research and integration of these to improve medical practice for both individual patients and the population.

Through inspirational teaching and training, the School will educate individuals who:

- will become exceptional doctors or biomedical scientists
 - combine a depth of scientific understanding with outstanding clinical and communication skills
 - demonstrate a caring, compassionate and professional approach to patients and the public
 - are equipped to become future international leaders of their profession
- The School is committed to the pursuit of excellence, and will support scientists of international standing (in basic and clinical research) who aim to:
- understand fundamental biology and thereby the mechanisms underlying disease
 - integrate basic and clinical research
 - apply a rigorous mechanism-based approach to clinical problems
 - innovate to solve the health challenges of our society

The School's core values are:

- to uphold the rights of the individual to freedom of thought, freedom of expression, access to education and access to appropriate healthcare
- to respect the diversity of our students, academics, non-academic staff, patients and volunteers and value their different expertise and contributions to the life of the School
- to instil in our graduates, staff and alumni a life-long passion for the pursuit of excellence in the service of society and an understanding of their responsibility to engage with the public about their research

Remit Statement

The School of Clinical Medicine aspires to change the practice of medicine and improve biological understanding in a wide range of clinical specialties and scientific disciplines. Collaborative research, both within biomedicine and crossing the boundaries to the mathematical, physical and social sciences, is key to our approach. The School also supports key enabling technologies and facilities in imaging, bioinformatics and biological systems. The main areas of research interest are:

- Cancer Research
- Cardio-Respiratory Medicine
- Cellular mechanisms of disease
- Diabetes, Endocrinology and Metabolism
- Epidemiology, Public Health and Primary Care
- Genetics and Genetic Medicine
- Haematological and Transplantation Medicine
- Infection and Immunity
- Neurosciences and Mental Health
- Stem Cells and Regenerative Medicine

5.3 Cambridge University Hospitals NHS Foundation Trust (CUHNFT)

CUHNFT comprises approximately 1100 beds and provides local and regional services across all specialties (apart from cardiothoracic surgery which is located at Papworth Hospital, 15 miles northwest of Cambridge, but will be relocating to a purpose built site within the Cambridge Biomedical Campus in 2017). Clinical care and clinical research within the hospital are provided by a mix of NHS and University employed senior clinical staff working together. There are seven Divisions responsible for delivering clinical service: each has a Divisional Director (positions for which academic clinical staff are fully eligible) and a deputy Divisional Director with lead responsibility for education and research (usually the relevant academic Head of Department). Much of the University Medical School accommodation is embedded within the hospital and a significant number of NHS senior staff pursue research in association with University colleagues in University Departments.

The Addenbrooke's Centre for Clinical Investigation contains the Wellcome Trust Millennial Clinical Research Facility (one of 5 awarded in the UK by the Wellcome Trust in 1999) and the Clinical Investigation Ward, together with the Clinical Research Unit of GlaxoSmithKline. This highly successful clinical research facility allows integration between University and Hospital investigators and pharmaceutical industry investigators.

The great majority of University staff involved in basic biomedical research hold honorary NHS contracts with the Trust.

In 2007 the Hospital Trust and University Clinical School in partnership were one of five UK academic health centres awarded one of the new National Institute for Health Research Comprehensive Biomedical Research Centres (NIHR BRC) (<http://cambridge-brc.org.uk/>). This funding was renewed and expanded in 2012 with an award of £110m of NHS R&D funding for translational research.

The '2020 Vision' exemplifies the long-term research partnership between the University Hospital, University Medical School and Medical Research Council. Originally launched in 1999, it planned to double the size of the Cambridge Biomedical Campus through the acquisition and development of an additional 70 acres of land on the western edge of the campus. This is now well underway with the recent opening of the new MRC LMB building and the relocation of AstraZeneca and Papworth Hospital to the campus. The Clinical School plans to develop a new integrated Cardio-Respiratory Research Institute in association with the latter.

5.4 The University of Cambridge School of the Biological Sciences

The School of the Biological Sciences encompasses the Faculty Board of Biology and the Faculty Board of Veterinary Medicine and is represented on the Faculty Board of Clinical Medicine. It has responsibilities across three Triposes (the Natural Sciences Tripos, Medical and Veterinary Sciences Tripos and Psychological and Behavioural Sciences Tripos).

It shares the Graduate School of Life Sciences, Graduate Committee and Medical Education Committee with the Clinical School. It has its own Degree Committee. It includes nine Departments, the Psychometric Centre and Centre for Family Studies, plus five major research Institutes and an animal hospital. The School is a key player in the Cambridge Conservation Initiative as well as the majority of Cambridge Strategic Initiatives. The School is associated with the Museum of Zoology and the Botanic Garden. Key officers of the School plus details of relevant Research Ethics Committees (Human Biology, Psychology) can be found on the School's website. Various subcommittees report to the Council, as required.

5.5 The Medical Research Council (MRC) in Cambridge

The MRC Laboratory for Molecular Biology (LMB), with its outstanding track record of molecular biology research and discovery, is located at the centre of the Biomedical Campus and also contains the MRC Centre for Protein Engineering. The MRC units are currently being fully integrated within the University.

The MRC Units on the site are all co-located in University buildings, facilitating interactions with University investigators: the MRC Mitochondrial Biology Unit, with its focus on mitochondrial biochemistry and genetics, in the same building

as the Cambridge Institute for Medical Research; the MRC Biostatistics Unit in the School's Institute of Public Health; the MRC Cancer Cell Unit in the Hutchison/MRC Cancer Centre, together with the University Department of Oncology; and the MRC Epidemiology Unit in the new building housing the Institute of Metabolic Science and the NHS clinics for diabetes and obesity. The MRC Cognition & Brain Sciences Unit is located in the centre of Cambridge but there are interactions with the Departments of Clinical Neurosciences and Psychiatry.

The University has been awarded 4 MRC Centre grants: the MRC Centre in Behavioural and Clinical Neurosciences spans cognitive neuroscience research across the Schools of Biological Sciences and Medicine. The MRC Centre in Nutrition and Cancer is based in the School's Department of Public Health. The MRC Centre for Research on Obesity and Related Metabolic Disease involves investigators from the Institute of Metabolic Science, and the MRC Epidemiology and Nutrition Resource Units. An MRC Centre grant underpins the Cambridge Stem Cell Initiative which spans the Schools of Biological Sciences and Clinical Medicine.

5.6 Cancer Research UK Cambridge Institute

The Cancer Research UK Cambridge Institute (CRUK-CI) aims to bring the scientific strengths of Cambridge to bear on practical questions of cancer diagnosis, treatment and prevention.

The Institute focuses specifically on the practical application of high-quality basic research, forming a bridge between the world-class science of the University of Cambridge and its environment, Addenbrooke's Hospital, and other institutes and departments on the Cambridge Biomedical Campus.

The Institute focuses on translational cancer research; accelerating the transfer of basic discoveries in cancer science to clinical and clinical trial application. Basic and applied research on cancer imaging is one of the principal research themes within the CRI.

Merck have made a significant investment in PET-CT facilities for human cancer research as part of a collaborative research agreement involving investigators in the CRI with the Department of Radiology and WBIC.

- 6. General Information** about certain conditions of appointment and certain University policies/regulations is attached.

7. Procedure for Appointment

The appointment will be made by a Board of Electors, chaired by the Vice-Chancellor or his deputy, with a membership which includes members of the Department, members of cognate Departments and external experts.

All applications will be acknowledged. The Board of Electors will decide how they wish to proceed towards making an election, which may include interviews and/or presentations. Short-listed candidates may be invited to visit the Department, to give a seminar on their work and meet prospective colleagues, prior to a meeting of the Board.

Candidates will be informed of the progress of their applications as agreed by the Electors.

It is anticipated that the successful candidate will take up appointment on 1 October 2018 or as soon as possible thereafter.

8. Enquiries and Applications

Informal enquiries about this Professorship may be directed to Professor Ken Smith, Head of the Department of Medicine or Professor Gordon Dougan, GSK Professor of Microbial Pathogenesis, by email: hodmed@medschl.cam.ac.uk.

Further information on the University is available at the following address: www.cam.ac.uk

Applications, consisting of a letter of application together with a statement of current and future research plans, a curriculum vitae and a publications list, along with details of three referees should be made online no later than **28 February 2018**.

If you are unable to apply online, please contact the Human Resources, University Offices, The Old Schools, Cambridge, CB2 1TT (email ibise@admin.cam.ac.uk).

GENERAL INFORMATION

All appointments to University Offices are subject to the Statutes and Ordinances of the University.

A Private Practice

University Employees who are holders of honorary clinical contracts in the National Health Service may engage in private medical practice for no more than the equivalent of one programmed activity (4 hours) each working week. The Head of the Clinical School may monitor the arrangements of Heads of Departments. Staff may elect to receive part or all of the income earned for that session; the income is administered by Cambridge University Technical services (CUTS). The fee for such private practice will be calculated after deduction of administrative and overhead costs. Income remaining after this fee has been paid will be placed in a fund or funds to be used for medical education or research administered according to arrangements approved by the Faculty Board of Clinical Medicine. Full details are given in the Private Practice Procedure, which is available on request from the Faculty Board of Clinical Medicine.

B Medical Defence

All staff actively engaged in the practice of medicine are required by the University to obtain medical defence cover that is appropriate for their activities. Evidence of such membership must be produced on taking up appointment.

C Consultancy Work

The University's policy on consultancy work is that consultancy arrangements must be entered into privately between the employee and the organisation concerned. The consultancy work must not interfere with the duties required of the officer under the officer's contract of employment with the University. Consultancy work is not covered by the University's insurances, even when the University has knowledge that such work is being done. The University must not be regarded as being directly or indirectly involved in any consultancy arrangement through the use of University letterheads, advice given or work done in the individual's capacity as an employee of the University. Individuals undertaking private or consultancy work are advised to take out personal insurance. Alternatively, professional indemnity cover may be obtained by channelling private work through the University company, CUTS Ltd.

D Salary

The stipend for a professor with clinical responsibilities is on a scale from £76,001 to £102,465 at a point determined by level of seniority.

There is a normal sabbatical entitlement of one term in seven on full pay, subject to the University regulations.

E Recruitment Incentive

The University has a scheme whereby in appropriate cases a single recruitment incentive payment may be made on appointment at the Vice-Chancellor's discretion.

F Removal Expenses

If the person appointed is not resident in Cambridge, a contribution from University funds towards expenditure incurred in removal to Cambridge to take up a University office will be made.

G Family friendly policies and benefits

The University has a range of family friendly policies to aid employee's work-life balance including maternity, paternity and parental leave, flexible working and career break schemes. In addition, childcare vouchers, access to two nurseries and a holiday play scheme are available through the Childcare Office to help support University employees with childcare responsibilities. Further information can be found at:

<http://www.admin.cam.ac.uk/offices/hr/staff/benefits/family.html>

H Eligibility to work and reside in the UK

UK immigration procedures stipulate that an employer may not consider the appointment of any person unless they have seen evidence of their immigration status. Accordingly, shortlisted candidates, whatever their nationality, will be asked to provide such evidence at an appropriate stage in the recruitment procedure.

I Health screening on appointment to University Office and in the case of University Officers undertaking a change of duties

Offers of appointment made to prospective University officers whose work will fall within certain categories will be conditional on the completion of a medical questionnaire and, if necessary, on a satisfactory health check by the

Occupational Health Service. For posts involving an honorary NHS contract, the health screen will also cover the requirements of the NHS; there may also be a need for a CRB check depending on the medical speciality.

Only the person elected will be asked to complete the questionnaire at the time of election.

J Professorial Fellowships

The great majority of Professors at Cambridge hold a professorial fellowship of a college. Although election to a fellowship is a matter for an individual college, the University takes active steps to draw to the attention of Heads of House the names of those Professors eligible for election.

In seeking the views of referees, their permission will be sought for the release of their comments on the successful candidate if it were to be requested by the professorial fellowship electors of a college.

K Equal Opportunities Information

The University is committed to a proactive approach to equality, which includes supporting and encouraging all under-represented groups, promoting an inclusive culture and valuing diversity. Selection decisions are based on personal merit and an objective assessment against the criteria required for the post. Applicants or members of staff are not treated less favourably than one another on the grounds of sex (including gender reassignment), marital or parental status, race, ethnic or national origin, colour, disability (including HIV status), sexual orientation, religion, age or socio-economic factors.

The University has various diversity networks to help progress equality; these include the Women's Staff Network, the Disabled Staff Network, the Black and Minority Ethnic Staff Network and the Lesbian, Gay, Bisexual and Transgender Staff Network. In addition, it was ranked in the top 100 employers for lesbian, gay and bisexual (LGB) staff in Stonewall's Workplace Equality Index 2013 and holds an Athena SWAN silver award at organisation level for promoting women in Science, Technology, Engineering and Medicine.

L Information if you have a Disability

The University welcomes applications from individuals with disabilities and is committed to ensuring fair treatment throughout the recruitment process. It will make adjustments to enable applicants to compete to the best of their ability wherever it is reasonable to do so, and, if successful, to assist them during their employment. Information for disabled applicants is available at <http://www.admin.cam.ac.uk/offices/hr/staff/disabled/>.

We encourage you to declare any disability that you may have, and any reasonable adjustments that you may require, in the section provided for this purpose in the application form. This will enable us to accommodate your needs throughout the process as required. However, applicants and employees may declare a disability at any time.

If you prefer to discuss any special arrangements connected with a disability, please contact, Dr Gosia Wloszycka, who is responsible for recruitment to this position, by email on mw425@admin.cam.ac.uk. Alternatively, you may contact the HR Business Manager responsible for the department you are applying to via hrenquiries@admin.cam.ac.uk.