UNIVERSITY OF CAMBRIDGE
School of Clinical Medicine

Athena SWAN Silver Award

THE PROFESSORSHIP OF ONCOLOGICAL IMAGING

DEPARTMENT OF RADIOLOGY

1 The Professorship

Background

Imaging has become an integral part of the delivery of both preclinical and clinical cancer advances. Cambridge has a strong preclinical imaging base supported by engineering, physics, biochemistry and biology. Cambridge is leading developments in hyperpolarized MRI, imaging of in vivo cell tracking, novel imaging biomarkers which dovetail the basic scientific advances. Both Pharma and Industry (GSK, AZ, Siemens, GE and Microsoft) all have strong imaging partnerships with Cambridge. Cross disciplinary research is encouraged and the EPSRC fund a Maths in Healthcare Imaging programme in recognition of the outstanding opportunities in the University. The MRC has made a strategic investment in imaging with the installation of advanced radiochemistry facilities for novel radiotracers, PETMR, 7T MRI and the upgrade of a 3T MRI for clinical imaging together with computing facilities to develop radio genomics. In acknowledgement of the excellent quality imaging research being undertaken the CRUK awarded Cancer Imaging Centre grant to Cambridge in 2015. Imaging is an integral part of the Cancer Core Europe award.

The CRUK Cambridge Centre (CCC) translates Cambridge innovation in biology, chemistry, physics and engineering into clinical benefits for patients with cancer. The work is supported by ~£500M of active, cancer-related research grants across the wider Cambridge area. In tandem the School of Clinical Medicine has grown exponentially over the last 20 years to capitalize on the clinical research opportunities that are available and this has been done in partnership with big Pharma (GSK, AZ etc.). Considerable investment has been made also in the Oncology workforce to support our expanding patient base and clinical trials portfolio. Addenbrooke's hospital has grown to become an internationally recognized medical institution. The hospital is the regional hub for cancer services serving a population of 3.5m and oversees one of the largest cancer trial portfolios in the UK. In recognition of its international role in cancer research, Cambridge was awarded CRUK Major Cancer Centre status (one of only three such centres in the UK); designated as a Comprehensive Cancer Centre by the Organisation of European Cancer Centres; and serves as a founding member of Cancer Core Europe (a collaborative of the six foremost cancer centres in Europe).

Over the last seven months the CCC has engaged in a strategic planning process timed with the five-year renewal application of our CRUK Major Centre status. During this process, excellence in cancer imaging science and clinical practice emerged as a true differentiator for the CCC and an area where we can have global impact on tackling cancer. With this in mind, we founded a new programme in Advanced Cancer Imaging and pre-clinical and clinical imaging now represents the biggest single area of proposed spend in the CCC budget. In addition, we recognised the need for a senior clinical radiologist specialising in cancer imaging, especially at the intersection with cancer genomics. With this in mind we are seeking to establish a new Chair in Oncological Imaging.

The medical school took the decision to keep all students in Cambridge for their clinical training instead of allowing ~ 50% to move to other teaching centres. In order to accommodate the doubling of the student numbers in year 4-6 the clinical teaching curriculum has been reorganised. Radiology is an integral part of the curriculum and due to the increasing use of medical images in clinical management greater emphasis is now placed on Radiology as a discipline and the use of imaging to support teaching in other disciplines. All of these factors place a considerable strain on the small Radiology department. This post would make a significant contribution to the medical student teaching load.

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.

- An outstanding research record of international stature in clinical oncological imaging.
- 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 Oncological Imaging 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 undergraduates, research students, and postdoctoral research fellows

Candidates will be clinically qualified, be registered or be eligible to register with the General Medical Council, hold the equivalent of a CCT in Radiology and be able to contribute to clinical service delivery.

Candidates will hold a PhD or equivalent postgraduate qualification.

2 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 2016 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 for students, determine the syllabi for teaching and conduct research.

3 The University Environment

3.1 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 (10 Nobel Prizes) and other smaller intramural units and the GlaxoSmithKline Clinical Research Facility. Astra Zeneca will be re-locating its global Headquarters and a substantial portion of their R&D resource to the Biomedical campus in 2017, representing a £330m investment. 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. Many biotech companies are located in the Cambridge area, including several with their origins in University research.

This co-location in Cambridge of a major Regional University Hospital, University Medical School and Research Institutes 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.

3.2 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

3.3 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 2017 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 planned 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.

3.4 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.

3.5 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.

3.6 Cancer Research UK Cambridge Centre

The Cancer Research UK Cambridge Centre (CRUK-CC) 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 CCC.

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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 CCC with the Department of Radiology and WBIC.

4 The Department

We strive to be an internationally competitive department undertaking innovative research in medical imaging. We have a team of dedicated academic radiologists working with imaging scientists with an active doctoral and post-doctoral research programme. We have extensive facilities across the Clinical School, including one 3T MRI, four 1.5T MRI machines, PET CT and four CT machines on which we undertake research. There is a large ultrasound

department and a nuclear medicine facility. We also undertake research at the Wolfson Brain Imaging Centre (WBIC) on the Siemens 7T MRI and two 3T MR machines and on the GE PET MR machine. We have two GE Hyperpolarizer machines, a clinical Multispectral Optoacoustic machine as well as state of the art breast imaging equipment – Digital Breast Tomosynthesis and Contrast Enhanced Spectral Mammography.

The cyclotron and recently refurbished radiochemistry facility produce the widest range of radiotracers in the UK, giving us extensive opportunities for innovative research in clinical imaging. Our links with the pre-clinical facilities in the West Forvie Building and in the Cancer Institute allow us to translate novel techniques into clinical practice.

We benefit from the excellent research platforms in the clinical specialities across the clinical campus as well as the extensive expertise in imaging in the Cavendish Laboratory, Department of Engineering and the Department of Astronomy.

4.1 Research

The department undertakes research in cardiovascular imaging, neuroimaging and oncological imaging as well as supporting a strong musculoskeletal programme. Imaging is undertaken in collaboration with the NHS imaging teams. There is extensive collaboration with the different clinical specialties which is supported through the CRUK Cambridge Centre and also from the Cambridge Biomedical Research Centre. Novel imaging is undertaken in MRI with new sequences being developed and translated. There is a strong preclinical and clinical hyperpolariser programme and an optoacoustic imaging. There is an extensive breast cancer imaging group. The molecular imaging programme has excellent support from the radiochemistry team, medical physics group and nuclear medicine specialists.

There is now a strong graduate programme with 17 PhD, MD or MPhil students in the department funded from a variety of grants with a few self funded students. Together with the increase in the post doctoral staff this has created a vibrant, exciting research environment within the Radiology Department.

4.2 Teaching

There is an innovative teaching programme for both undergraduates and postgraduate students.

Radiology is an integral part of the clinical training curriculum and, due to the increasing use of medical images in clinical management, greater emphasis is now placed on Radiology as a discipline and the use of imaging to support teaching in other disciplines. This post would make a significant contribution to the medical student teaching load.

4.3 Staffing: NHS and University

The department has three professors, three University Lecturers and two Clinical Lecturers posts. There are seven post-docs, seventeen graduate students and seven administrative and support staff. The department works very closely with the NHS medical physics and nuclear medicine groups who are key collaborators.

The University Department of Radiology is fully integrated into Addenbrooke's Hospital and we work closely with the NHS staff. There are currently around forty-five Consultants in Radiology across the Trust and 25 radiology trainees with at least two fellows in the department at any time. There is a very strong visitors programme with many international short stay visitors learning different aspects of radiology.

4.4 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.

5 General Information about certain conditions of appointment and certain University policies/regulations is attached.

6 Further Information

It is suggested that prospective candidates might wish to include the following amongst those they consult:

Professor Fiona Gilbert, Head of Department
Dr Ferdia Gallagher, lead cancer imaging
Professor Richard Gilbertson, Head of CRUK Cambridge Institute
Professor Kevin Brindle, Head of Preclinical Imaging
Professor Franklin Aigbirhio, Head of Radiochemistry
Dr Martin Graves, Lead MR Medical Physicist

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 August 2017 or as soon as possible thereafter.

8 Enquiries and Applications

Informal enquiries about this Professorship may be directed to Professor Fiona Gilbert, Head of Department of Radiology, Cambridge, telephone +44 01223 (7)46 438 or email fjg28@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, should be made online no later than **17 May 2017.**

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 bronze 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.