

## 2-YEAR ACADEMIC FOUNDATION PROGRAMMES (entry 2013) AT UNIVERSITY COLLEGE LONDON MEDICAL SCHOOL (UCL)

### 1. DETAILS OF TRAINING PROGRAMMES

Programme Reference	Programme Theme
UCL/001	Medical Virology 1
UCL/002	Medical Virology 2
UCL/003	Medical Virology 3
UCL/004	Histopathology / Cellular Pathology 1
UCL/005	Histopathology / Cellular Pathology 2
UCL/006	Histopathology / Cellular Pathology 3
UCL/007	Nuclear Medicine 1
UCL/008	Nuclear Medicine 2
UCL/009	Nuclear Medicine 3
UCL/010	Neurology 1
UCL/011	Neurology 2
UCL/012	Rheumatology
UCL/013	General Practice / Public Health Medicine 1
UCL/014	General Practice / Public Health Medicine 2
UCL/015	General Practice / Public Health Medicine 3
UCL/016	General Practice / Public Health Medicine 4
UCL/017	Hepatology
UCL/018	Paediatrics
UCL/019	Cardiology
UCL/020	Obstetrics & Gynaecology
UCL/021	Clinical Pharmacology / Cardiovascular Medicine
UCL/022	General Surgery

### 2. POSTS

#### ***Posts 1, 2 & 3 – Medical Virology (Royal Free Hospital)***

Virology is an exciting and rapidly moving subject which integrates laboratory work with clinical needs. Trained specialists need both a good working knowledge of applied molecular biology and a clear understanding of viral pathogenesis.

Virologists reach out from their laboratory base to interact with clinical colleagues in a wide variety of areas (e.g. organ transplantation, HIV, hepatology, antenatal, infectious diseases, sexually transmitted diseases, occupational health). Randomised controlled clinical trials of antiviral drugs provide the evidence base for or against recommending treatment of a particular infection. The measurement of viral load directly in patient samples provides an objective assessment of response to treatment. Direct sequencing of viral genomes identifies the mechanisms of developing resistance to these antiviral drugs. Trainees will gain experience of recruiting patients into ongoing randomised controlled trials and will see how viral sequencing can monitor the evolution of resistant strains.

#### ***Posts 4, 5 & 6 – Histopathology / Cellular Pathology (Royal Free Hospital)***

Histopathology (Cellular Pathology) is the basis of most medical theory, research and practice. This specialty comprises histopathology, which gives the diagnosis and other relevant information on biopsies and surgical resections; cytopathology, which gives the diagnosis on aspirated and other specimens of lesions; and autopsy pathology, which is still of importance in modern medicine. Many specialties rely on pathologists both in everyday practice and in research. These include gastroenterology and gastrointestinal surgery; hepatology, hepatobiliary surgery, and liver transplantation; nephrology and renal transplantation; urology; neurology and neurosurgery; dermatology and plastic surgery; breast surgery; gynaecology and obstetrics; and haematological

oncology. This rotation gives the opportunity for development of a wide range of skills practised in Cellular Pathology, for participation in the many tutorials given to pathologists in training, for helping to teach medical students, and for attendance at various clinicopathological meetings, which emphasise the role of the specialty in clinical management. There are also facilities for research on the great variety of material that is available, in collaboration with pathologists and others, and research will be encouraged and supported.

### ***Posts 7, 8 & 9 – Nuclear Medicine (Royal Free Hospital)***

The Academic programme in Nuclear Medicine concentrates on functional imaging in the context of investigation of patients, and on research related to the techniques used and the evidence of clinical effectiveness. There will be particular links to endocrinology, oncology, and the Neuroendocrine Tumour Unit at the Royal Free Campus. The trainee may also participate in the research programme in the Institute of Nuclear Medicine on the UCLH Campus of UCL.

The trainee will thus gain an understanding of the requirements of research in Molecular Imaging in Humans. A wide range of diagnostic and therapeutic procedures (including radiological) are available. There will be specific teaching on the principles and practice of functional imaging and image analysis, and their application both in individual clinical cases and in prospective studies. The trainee will be expected to research issues of utility and selection of nuclear imaging techniques.

The goal is to give trainees the opportunity to experience and develop research techniques using the time and facilities in Nuclear Medicine, and to encourage consideration of a career in this field. We expect all three F2s from each year to work on a project that will run throughout the year.

### ***Posts 10 & 11 – Neurology (Royal Free Hospital)***

The trainees will work in the largest national and regional referral centre for neurological disease. Against a background of unparalleled access to the clinical observation of neurological disease, they can become involved in particular sub-speciality aspects of neurology, and the combined clinical and laboratory investigations of neurological diseases – e.g. chronic neurological diseases such as Motor neuron disease, Parkinson's disease, and cognitive disorders. Research extends from basic science, molecular biology and neurogenetics of the underlying aetiology of these conditions to cellular and animal modelling of disease, and clinical trials of new pharmacological approaches. The trainees will have an opportunity to participate in a project within one of the associated laboratories.

### ***Post 12 – Rheumatology (Royal Free Hospital)***

Rheumatology involves the management of the huge array of musculoskeletal disorders ranging from painful, but essentially degenerative, conditions such as osteoarthritis, to those such as rheumatoid arthritis and vasculitis which cause serious, long term major inflammation and disability. Its importance is emphasized by the fact that 20% of all GP consultations are for musculoskeletal complaints and the UK pays £30,000,000 per week in disability benefits to patients with these problems.

The Royal Free and UCL Medical School have a strong tradition of emphasising the importance of rheumatology. Several dynamic 'musculoskeletal' firms cover the topic comprehensively stressing the importance of clinical observation and capturing the current excitement about the introduction of biological agents designed to block individual key molecules known to be intimately involved in the development of inflammatory arthritis. The Rheumatology units are very interested in pastoral care ensuring that their trainees are given the best chance to develop a wide range of management and research skills.

It is noteworthy that a past President of The Royal College, Professor Dame Carol Black, (from our own medical school); the Head of the Wellcome Trust, Professor Mark Walport; a recent winner of Doctor of the Year, Dr John Halsey, and the recently knighted, co-developer of TNF alpha blockade, Professor 'Tiny' Maini are all rheumatologists.

### ***Posts 13, 14, 15 & 16 – General Practice / Public Health Medicine (Whittington Hospital) – 3 months***

The Division of Population Health (DPH) includes major research strengths in primary care and in clinical epidemiology as applied to coronary heart disease, mental health, e-health, aging, infectious

diseases, sexual health and HIV. The work attracts major funding from the MRC, Department of Health, European Union and various research charities. Its academic staff includes clinicians, epidemiologists, statisticians, health psychologists and sociologists. It has a major programme of undergraduate teaching, delivering 20% of teaching across all 5 years of the undergraduate medical curriculum, and active and growing postgraduate taught and research degree programmes. The Division has a successful history of hosting academic training integrated with clinical roles.

For all trainees a balanced clinical / educational programme can be created according to their particular interests, to interface with a range of clinical specialties: e.g. mental health, diabetes in primary care; cardiovascular disease, elderly care, as well as HIV clinical epidemiology, infectious diseases and sexually transmitted infections.

During the research component of the attachments each trainee will be attached to a particular research group within the Division, according to interest. Trainees will participate as a member of the research group, attending project meetings and undertaking research related tasks, either on important externally funded projects, or on projects under development. Trainees will be exposed to a variety of research methods and have the opportunity for individualised training related to the project. Research methods training is available in face-to-face course or online module format. Further opportunities for in-house training are available in medical statistics, and other research related training can be arranged depending on the fellow's particular interests. Trainees will also be encouraged to take a broader view of their clinical work, consistent with their academic perspective. There will also be opportunities to participate in the wide range of educational programmes delivered by the division and its constituent departments. DPH is an innovative leader in education with close links to the UCL Academic Centre for Medical education (ACME). Trainees will be able to participate in a range of short courses on generic medical teaching such as TIPS courses, and will enjoy opportunities to teach undergraduate students. Trainees can also benefit from the expertise of a network of tutors experienced in training in specific clinical areas many of whom will already be hosting F2 trainees during their 4-month general practice attachment

The academic options offered in this rotation are: Primary care, Clinical Epidemiology, Sexual Health:

### **Primary care**

Typically there will be a clinical programme during which the F2 Fellow will work under supervision in one of the teaching practices closely linked with the medical school for 2-4 sessions per week, with the remaining sessions being fully protected for academic work. The focus of the latter can vary – for example in one of the department's internationally renowned research groups (Cardiovascular epidemiology, e-Health, Mental Health, Aging, infectious diseases.).

### **Clinical Epidemiology**

The Division is involved in a very wide range of epidemiological research. In primary care epidemiology for example we have access to The Health Improvement Network database (THIN) containing records of over 5 million patients, which is a particular strength enabling use of the epidemiological approach to general practice clinical data. Other major areas of work include the epidemiology of cardio-vascular disease, mental health, HIV and other infections.

For trainees interested mainly in clinical epidemiology, arrangements will be made for appropriate clinical experience (2-4 sessions) in General Practice or Genito-Urinary Medicine (GUM) to ensure trainees gain the acute clinical competencies required for Foundation training.

### **Sexual Health/Infections**

The Research Department of Infection and Population Health within DPH combines strong groupings in clinical (genito-urinary) medicine, epidemiological and behavioural research collaborating with a leading NHS clinical HIV/STD clinic at Mortimer Market, and the MRC's Clinical Trials Unit. The Centre is at the forefront of clinical and behavioural trials research, HIV/STI epidemiology and research into reproductive health. A placement would normally include 2-4 clinical sessions a week in GUM/HIV medicine at Mortimer Market or General Practice.

### ***Post 17 – Hepatology (Royal Free Hospital and UCL Hospital)***

Hepatology is a major clinical speciality, and UCL has the largest academic department of Hepatology in the UK. The clinical basis is the investigation and treatment of all types of liver disease, from the investigation of abnormal liver function tests to liver transplantation. The associated clinical and laboratory science includes subjects as varied as chronic viral disease, the immunology of liver

disease including transplant rejection, the pathophysiology of liver failure, cellular and molecular biology, hepatocyte transplantation, gene therapy, interventional radiology and biliary endoscopy.

The academic attachment will include an attachment to a specific clinical scientist/investigator for training, with a defined achievable project intended to lead to a publication or presentation. Clinically orientated laboratories using physiological, biochemical, immunological and cellular and molecular techniques are in current use in well-equipped laboratories. Other studies involve biliary endoscopy, alcoholic liver disease, hepatic encephalopathy clinical trials such as the use of anti-viral agents for chronic hepatitis, new approaches to immunosuppression, and improvements in the management of acute and acute on chronic liver failure.

Trainees may also have some clinical training relevant to the understanding of and treatment of severely ill patients, applicable to many other specialities such as intensive care, nephrology and cardiology, and direct involvement will provide important training in the F2 competencies. Trainees will be allocated an academic and clinical supervisor who will ensure that the aims of the attachment and of the Foundation Programme are met.

### ***Post 18 – Paediatrics (UCL Hospital)***

Paediatrics is an exciting and rewarding specialty with major innovations likely over the next few years under the recently created Children's Commissioner. Academic Paediatrics encompasses a vast area ranging from the genetics and molecular biology of congenital diseases, through improved understanding and management of prematurity and chronic childhood conditions to environmental, social and educational influences on the developing child. Our programme will integrate clinical training in Neonates and General Paediatrics at University College London Hospital with formal research training sessions at the Institute of Child Health and Great Ormond Street; opportunities for short projects will also be offered at these sites, which have an international reputation for excellence in clinical and basic academic research.

Our programme aims to nurture future Academic Paediatricians. Trainees will be fully-integrated into our teaching and research programmes, with core training in basic Paediatrics suitable for the foundation stage and exposure to diverse research areas that will enable them to make an informed decision on their future academic direction. At least one day per week will be spent on basic research training, with dedicated foundation programme sessions and a choice of additional 'taster' modules from higher degree courses. Each trainee will have an academic and clinical supervisor, and regular meetings will be arranged to optimise their experience of Academic Paediatrics within the framework of the general Foundation Programme requirements.

### ***Post 19 – Cardiology (UCL Hospital)***

The clinical service workload in Cardiology is based on the UCLH site in association with the tertiary centre of cardiology in the Heart Hospital. Together they provide state of the art cardiology services, with an underpinning of general medicine. The acute cardiology service ranges from percutaneous intervention in myocardial intervention, to regional services for "grown-up congenital heart disease", for arrhythmia and heart failure management, and cardiac surgery. Internationally renowned groups perform clinical and laboratory based research on - for example - patients with cardiomyopathies, and on ion channel disorders in serious arrhythmias. There are also strong academic links and interests in cardiovascular genetics and risk factor management. In addition to participation in taught seminars, multi-disciplinary meetings, and weekly specialist review sessions, trainees will have the opportunity to participate in an audit or research project in clinical cardiology or laboratory research.

### ***Post 20 – Obstetrics & Gynaecology (UCL Hospital)***

Obstetrics & Gynaecology (O&G) is the core of Women's Health. It provides a unique combination of medical and surgical skills and the care of healthy people (e.g. normal pregnancy or for contraception) and ill patients (e.g. pregnancy complications, gynaecological cancers). It plays a major part in the prevention of disease (e.g. cancers, birth defects) and in promoting the health of future generations.

There are also huge areas of ignorance which invite enquiry: the processes of fertilisation and development of the zygote into a human being, and of post-menopausal ageing; the causation and prevention of major pregnancy complications such as pre-term delivery, fetal growth restriction and pre-eclampsia.

O&G at UCL and UCLH is strong in all the clinical subspecialties of O&G i.e. Fetal and Maternal Medicine, Gynaecological Oncology, Reproductive Medicine, Urogynaecology and Paediatric Gynaecology. An Institute of Women's Health (the only one in the UK) has been established to promote research and clinical practice in these areas as well as in reproductive and sexual health, epidemiology and ethics.

Trainees will be allocated to a mentor and be exposed to the research and teaching activities of the department. They will choose a research project and learn research methodology, the relationship between research and clinical practice and how to plan an academic career.

### ***Post 21 – Clinical Pharmacology / Cardiovascular Medicine (UCL Hospital)***

The attachment offers high-quality experience and training in clinical academic medicine in a unit with strengths in the delivery of evidence-based clinical care, as well as biomedical and translational research. The clinical firm cares for patients presenting to University College Hospitals (UCLH) with cardiovascular disorders, and there are close links with the specialist services at the Heart hospital. Consultants are involved in evaluating new medicines for inclusion in the hospital formulary and in the development of drug policy, and use a rigorous evidence-based approach. Research activity is located in close proximity to the hospital at the Centres for Clinical Pharmacology and Cardiovascular Medicine, UCL, where active research groups are engaged in understanding the basis of cardiovascular disease, supported by the British Heart Foundation, MRC, and Wellcome Trust.

There are well-equipped BHF-funded laboratories with core facilities for cell culture, patch-clamping, FACS analysis, genomics, organ bath pharmacology and clinical investigation. Interests range from the molecular electrophysiology of cardiac and vascular cells, through the regulation of endothelial function and the basic biology of endothelial mediators in health and disease, to genetic epidemiology and systematic reviews of healthcare interventions. Mentors will support trainees in their clinical and academic development during this attachment, preparing them for a career as academic physicians.

### ***Post 22 – General Surgery (Royal Free Hospital and UCL Hospital)***

General Surgery is a major component of medicine and the University Department of Surgery at the Royal Free provides a broad range of general and sub-specialty surgical services including G.I., colorectal, vascular, breast, plastic, hepatobiliary and transplant surgery. Trainees would gain exposure to a wide range of clinical skills and hence acquire a basic grounding in the assessment, management and care of elective and acutely ill patients. The Department is also very active in research and the teaching of undergraduate and postgraduate students.

Our aim is to encourage trainees to build upon the knowledge, skills and attributes developed during their undergraduate training. Trainees will be involved in all areas of departmental activity including teaching and research which would hopefully stimulate an interest in academic surgery and medicine. Trainees will be allocated an academic and clinical supervisor at the outset of the attachment who will ensure the aims of the attachment and of the Foundation Programme are met.

## **3. THE MEDICAL SCHOOL AND PARTNER TRUSTS**

### **• UCL Medical School**

UCL Medical School is committed to excellence in education and has a strong reputation for teaching informed by cutting-edge research. The School has a distinguished cadre of academic staff who are at the forefront of international research in medical sciences and clinical medicine.

Staff research activities, directed towards patient-centred outcomes, are supported by partnerships with NHS trusts. Several world famous clinical and research institutions are closely associated with the Medical School. The school is one of the largest in the country and is situated in the heart of London at three main campuses; the Bloomsbury campus, the Royal Free campus, and the Whittington campus; all with clinical facilities, teaching laboratories, lecture theatres and libraries.

UCL Medical School has a distinguished history; it emerged from the amalgamation of Middlesex Hospital, University College Hospital and the Royal Free Hospital. These organisations combine a rich past in the history of science and medicine with advanced clinical practice. Among past and present staff are Nobel Prize winners (Huxley, Hill and Katz) and numerous Fellows of the Royal Society and the Academy of Medical Sciences.

The North Central Thames Foundation School has academic training programmes in the following three Trusts:

- **Royal Free London NHS Foundation Trust (RFH)**

The Royal Free London NHS Foundation Trust has around 900 beds and sees about 700,000 patients a year from all over the world. The Trust employs around 4,600 people and has a turnover of about £450m. The services include a major accident and emergency service, all branches of surgery and medicine, a renal service serving the whole of north London, paediatrics, maternity services, care of elderly people, an adolescent psychiatric service and one of two high security infectious diseases units in the country.

Royal Free is renowned for their specialist services including liver, kidney and bone marrow transplantation, renal, AIDS/HIV, infectious diseases, plastic surgery, immunology, paediatric gastroenterology, ENT surgery and audiological medicine, amyloidosis and scleroderma. The Trust is a leading cancer centre with a range of specialist diagnostic and treatment services in oncology and haematology and a major neuroscience base with a network extending throughout north London and into the Home Counties. There are associated internationally recognised research and training programmes.

The hospitals and associated medical school conduct medical research, much of which is of international status, and constitute a leading site for the training of doctors, nurses, midwives and professions allied to medicine.

- **The Whittington Hospital NHS Trust (WHT)**

The Whittington Hospital NHS Trust is an acute general teaching hospital situated in Archway, in the north of Islington. The Trust primarily serves the communities of north Islington and west Haringey, a population of approximately 250,000 people. The hospital also treats a significant number of patients from Camden, Barnet and Hackney. There are 467 beds and over 2,000 staff. The Whittington is one of the teaching hospitals of the University of London. The Trust provides clinical placements for undergraduates and has a large post-graduate training centre. In addition, it provides training for a wide range of other health professionals including nurses, midwives, radiographers and dieticians.

- **University College London Hospitals NHS Foundation Trust (UCLH)**

University College London Hospitals NHS Foundation Trust (UCLH), situated in the heart of London, is one of the most complex NHS Trusts in the United Kingdom, serving a large and diverse population. UCLH provides academically led acute and specialist services, both locally and to patients from throughout the United Kingdom and abroad. UCLH balances the provision of highly rated specialist services with providing acute services to the local populations of Camden, Islington, Westminster and the City of London.

The Trust has a turnover of £632 million and contracts with more than 150 Primary Care Trusts to provide services. They treat over 500,000 outpatients appointments and admit 100,000 patients each year. UCLH employs 6,000 staff and is a major teaching centre offering training for nurses, doctors and other health care professionals.

The Trust has an international reputation and a tradition of innovation. Their excellence in research and development was recognised in December 2006 when in partnership with University College London they became one of the country's five comprehensive biomedical research centres. Operational from September 2008, UCL Partners was created, bringing together five of Britain's world renowned medical research centres and hospitals: UCL (University College London); Great Ormond Street Hospital for Children NHS Trust (GOSH); Moorfields Eye Hospital NHS Foundation Trust; the Royal Free London NHS Foundation Trust; and, University College London Hospitals NHS Foundation Trust.