NHS
Cambridge
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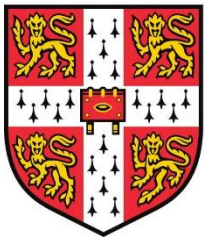
NHS Foundation Trust



UNIVERSITY OF CAMBRIDGE

Academic Clinical Fellowship

In

Paediatrics

(ST1)

One post

Entry: August 2027

Job title	Academic Clinical Fellow in Paediatrics
Post(s)	ACF-2027-14-008 – Digital – Acute Internal Medicine OR Paediatrics OR Emergency Medicine Three NIHR-funded posts
NIHR Priority Research Theme	Post **ACF-2027-14-008** has been awarded under the research theme **Digital**. The appointee will be expected to develop a research programme in that theme area.

These posts will attract an Academic National Training Number – NTN(a)

Duration and Outcome

This post will be appointed at ST1 level and is funded for three years. The principal aim of the ACF scheme is to allow academically gifted clinical trainees the opportunity for 25% protected research training and during that time to formulate and submit an application for an externally funded Research Training Fellowship (RTF) (e.g. Medical Research Council, Wellcome Trust, British Heart Foundation). If candidates are unsuccessful in obtaining funding for an RTF/PhD, they can transfer into non-ACF ST3+ posts and pursue full-time clinical sub-specialty training. It is anticipated that all successful ACFs completing RTFs would be in a strong position to compete for Clinical Lecturer posts following award of their higher research degree, as per the Integrated Academic Training programme.

NHS Organisation(s) in which training will take place

Addenbrooke's Hospital, Cambridge University Hospital NHS Foundation Trust. Clinical placements will be organised in a rotation involving some of the 17 hospitals in the East of England School of Paediatrics training programme with specialist clinical placements in Cambridge. The structure of the ACF will be organised and agreed by the Training Programme Director, Academic Supervisor and the successful appointee.

Research Institution(s) in which training will take place

University of Cambridge (Department of Paediatrics) and Cambridge University Hospital NHS Foundation Trust. Depending on the specific research, projects may be pursued at one of a number of other research institutes on the Cambridge Biomedical Research Campus (Addenbrooke's Hospital). The academic supervisor will be allocated when the research project has been identified.

Day release or block release for protected research time?

It is anticipated that the successful applicant will be available for research on a block basis (e.g. 3-9 months durations) comprising 25% WTE over three years. This will be subject to negotiation.

Description of the Research Component

Prior to starting the fellowship, the successful candidate should discuss and agree their specific area of research, relevant to the "Digital medicine" theme and in an area of Paediatrics or Neonatal Medicine. During the course of the fellowship, the fellow will be expected to design, undertake and complete a discrete clinical study under supervision. The ultimate aim of the fellowship is to provide training and experience in clinical research methodology to equip the fellow with the necessary skills to pursue a career in Academic Paediatrics. Therefore, whichever specific research topic is chosen, supervision will be provided by a representative of the University Department of Paediatrics with regard to research methods training and academic career pathways. The Fellow will undergo basic training within the University, including courses on medical statistics, including use of common data analysis software, paper writing, grant applications, literature searches etc.

Description of research in Paediatrics and Neonatal Medicine

The University Department of Paediatrics (Head: Prof Sam Behjati) comprises over 60 staff including: clinicians, scientists, research nurses, postgraduate students and visiting fellows. There are various active programmes of research in the areas described below. Much of this research involves digital medicine approaches (including the generation and analysis of large-scale data, including routine clinical data), and there are many research projects with a focus on, or relevance to, digital medicine: (also see https://paediatrics.medschl.cam.ac.uk/research/).

Paediatric Haematology and Oncology: Prof Sam Behjati and Dr Sarah Leiter study the developmental origins of cancer, especially of childhood cancer, by combining single cell transcriptomics with cancer genomics. Prof Matthew Murray's translational programme studies the genetic changes in solid tumours of childhood, with a particular focus on germ cell tumours (both extracranial and intracranial). Prof Richard Gilbertson (Chair, Department of Oncology) directs the CRUK Cambridge Cancer Centre and investigates origins and treatment of paediatric brain tumours. His lab has used next generation sequencing of patient samples to define some of the key driver mutations of paediatric brain tumours and mouse models to pin point the cells in the nervous system that give birth to these tumours.

Genomics: The Next Generation Children (NGC) Project is delivered via an innovation hub that brings together Cambridge University Hospitals, University of Cambridge, the NHS East Genomic Laboratory Hub and Illumina. The Decipher Developmental Disorders (DDD) project used whole exome sequencing for analysis and causative gene discovery of neurodevelopmental disorders in

14,000 probands and their parents (trios). With Professor Lucy Raymond, Dr. Helen Firth and Dr Matthew Hurles (University of Cambridge Department of Clinical Genetics and Wellcome Trust Sanger Institute) we are investigating utility of whole genome sequencing for diagnosis with rapid turnaround time in the NICU and paediatric ITU. Moreover, we will use genotype-phenotype linkage to electronic health and educational records to assess long-term outcomes into adulthood.

Neuroscience and Developmental Origins of Psychiatric Disease: Prof Topun Austin leads research in neonatal neuroscience, which builds on an award-winning regional service for neonatal neuroprotection in the East of England. The Cambridge NeuroNICU, modelled on a service led by Prof David Rowitch at UCSF, is a clinical and research platform for infants at risk of brain injury from across the region. This includes the Evelyn Perinatal Imaging Centre, a bespoke infant brain functional imaging facility that combines MRI with optical and electrophysiological technologies to identify infants at risk of brain injury through neoLAB, a joint venture with University College London.

Dr Lizzie Radford is a paediatric neurologist and UKRI Future Leader Fellow who leads genetic and cell-based research to accelerate diagnosis and expand the treatment options for children affected by neurodevelopmental genetic conditions.

Dr Anna Moore, Assistant Professor of Child Psychiatry and consultant psychiatrist, is the clinical lead for D-CYPHR, the world's first national childhood DNA health research programme. This aims to understand the role of genetics environment and experiences, among children and young people, on a range of physical and mental health conditions and illnesses. There are also active collaborations with the Department of Psychology (Dr. Vicky Leong), Department of Psychiatry (Prof Tamsin Ford, Prof Isobel Heyman and Professor John Suckling) and the Autism Research Centre (Professor Simon Baron-Cohen).

Childhood Diabetes (leads: Prof Roman Hovorka, Dr Emile Henriks, Dr Loredana Marchovecchio). The department runs large cohort studies examining the mechanisms and prediction of macro- and micro-vascular complications, and co-ordinates large international multi-centre studies to prevent screen for and prevent Type 1 Diabetes and its complications. The high-profile artificial pancreas programme involves a variety of experimental and physiological studies.

Paediatric Endocrinology: Prof Ken Ong leads a programme studying genetic, epigenetic and hormonal mechanisms linking nutrition, weight gain and pubertal timing to later obesity and Type 2 diabetes and work on biomarkers of infant growth and nutrition in relation to later adiposity and metabolic disease risk. Dr Ajay Thankamony leads studies on the efficacy of emerging GH therapies in various patient groups.

Paediatric Gastroenterology: Prof Matthias Zilbauer leads the Cambridge Centre for Children's Gut Health investigating mechanisms and new treatments for paediatric inflammatory bowel disease.

This research theme is focused on epigenetics of the intestinal immune system in health and disease particularly inflammatory bowel diseases (IBD). Prof Zilbauer and Dr Robert Heuschkel have been lead investigators for the following studies: The use of Prucalopride in childhood constipation (SHIRE/Movetis) and PROCEDE (ESPGHAN / National Society support) a Europe-wide prospective study of diagnostic criteria in childhood coeliac disease.

Paediatric Intensive Care: Dr Nazima Pathan's studies include the genetic predisposition to infectious disease, inflammatory markers related to outcomes, mechanisms of neurotoxicity and endocrine consequences of head injury.

Neonatal Metabolism: Dr Kathryn Beardsall studies the metabolic transition from fetal to independent life involving many adaptive processes. Adaptation at this time has important impacts on both short term and long term health. She is investigating the impact of short term nutrition and care and the implications for long term health.

Other neonatal research: Dr Wilf Kelsall and Dr Yogen Singh have active research interests in the management of the patent ductus arteriosus and delivery of neonatal and paediatric cardiology outside specialist centres. Other consultants have interests in neonatal transport, neonatal ventilation, patient safety and neurodevelopmental outcomes.

In addition, there are a large number of research active NHS consultant paediatricians, particularly in the areas of paediatric oncology & haematology, respiratory paediatrics, cardiology, and neurology. In total there are ~40 NIHR portfolio-adopted clinical research studies active at Addenbrooke's with several further non-portfolio studies. Paediatric research on the Addenbrooke's campus is supported by core facilities provided by the NIHR Cambridge Clinical Research Facility and the NIHR Cambridge Biomedical Research Centre and oversight is provided by the Trust's Women's and Children's Directorate.

Description of the Clinical Training Component

The post will provide 3 years of training in Paediatrics [including the 25% of time in research], starting with core training and, for those fellows starting at ST2+, then moving to ST4 with arrangements made subsequently for training in the sub-specialty most relevant to their research area. The choice, blend and sequence of jobs will be overseen by Dr Shazia Hoodbhoy (Head, School of Paediatrics, Health Education East of England LETB) and the Paediatric Training Programme Directors (Level 1: Dr Nick Schindler, Level 2: Dr Sudeep Damodaran). The ACF will be designed to deliver core clinical training and allow exposure to the principal sub-specialist area of interest. Placements are likely to be in Cambridge and local DGHs. These clinical training placements will be indistinguishable from the mainstream Paediatrics speciality registrar training posts and will involve normal pro-rata on-call commitments.

Description of the Clinical Departments

At Cambridge University Foundation NHS Trust (CUFT), Addenbrookes Hospital, the Clinical Paediatrics and Neonatal Medicine Units are part of Division E (Director: Miss Kanwalraj Moar).

The Paediatric Unit (Children's Services) at Addenbrooke's is a regional service for many specialties, and the local paediatric centre for the population of Cambridge and surrounding areas. The Paediatric Unit admits approximately 3,500 patients a year and, therefore, offers a wide range of experience in both children's medicine and surgery.

The Neonatal Intensive Care Unit (NICU) is one of three level III NICU's in the East of England Perinatal network, situated in the Rosie Hospital located adjacent and connected to Addenbrooke's Hospital. In September 2012 a major expansion to the Rosie Hospital opened, including the Rosie Birth Centre, fetal medicine unit and a new expanded NICU. The new unit has an anticipated final capacity of 58 cots with 40 currently open. Cambridge also hosts the regional acute neonatal transport service (ANTS). There are approximately 6000 deliveries per year. The Rosie provides regional perinatal services for fetal medicine, genetics, paediatrics surgery, neonatal neurology, paediatric neurosurgery and perinatal pathology.

Further Information and Contacts

Clinical Academic Training Office (CATO) at the University of Cambridge

CATO Director	Professor Alasdair Coles Email: ajc1020@medschl.cam.ac.uk
ACF Programme Director	Dr Virginia Newcombe Email: vfjn2@cam.ac.uk
Academic Training Lead	Professor Ken Ong Email: ken.ong@ims.cam.ac.uk

Other Contacts

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NIHR	http://www.nihr.ac.uk/IAT