### Description of ACF Programme:

**Title:** Paediatrics (Child Health)  
**Duration:** 3 years

### Lead NHS Hospital/Trust and contact details:

University Hospital Southampton NHS Foundation Trust  
Tremena Road  
Southampton SO16 6YD  
Tel - 02380 777222

### Research Institution in which training will take place:

University of Southampton  
University Road  
Southampton  
SO17 1BJ

### Arrangements for protected research time:

The trainee will join the approved Wessex specialist training programme in Child Health. This offers a wide range of experience in general paediatrics and community child health as well as tertiary specialist experience in the chosen specialty of the trainee. This could be in neonatal medicine, respiratory, allergy immunology and infectious diseases, gastroenterology and nutrition, oncology, paediatric endocrinology, neurology or community child health. The post will lead to accreditation (CCT) in Child Health but it is anticipated that this will be as a tertiary specialist in one of the above identified areas. The 3 years will be spent in clinical posts rotating as deemed appropriate, it is anticipated that 18 months will be spent in Southampton during the first 3 years of training.

This will be accommodated within the 25% additional salary provided over the 3 year period. The 25% of time devoted to research training would be located in Southampton. This will allow considerable flexibility in the allocation of sessions within the programme. It is anticipated that more time would be devoted to research education and training in the first 2 years leading up to the submission of a grant proposal for a research training fellowship. The final year would have proportionately more time to establish the trainee’s clinical credentials in a specialist area prior to entering full time research.

### Research Objectives:

The objectives for the trainee in a 3 year training programme are as follows:

1) To undertake the equivalent of 2 years and 3 months full time specialist training in Child Health in an accredited post  
2) To complete the generic research methods training programme run by the Faculty of
3) To gain relevant training and experience in research design, methods and systematic review.

4) To draw up a proposal for an externally funded research training fellowship to be undertaken within Child Health which may be located in the research Academic Units/Research Themes of the University of Southampton Faculty of Medicine:

- Clinical and Experimental Sciences
- Human Development and Health
- Cancer Sciences

See weblinks at [http://www.southampton.ac.uk/medicine/academic_units/academic_units.page?](http://www.southampton.ac.uk/medicine/academic_units/academic_units.page?) and [http://www.southampton.ac.uk/medicine/research/themes.page?](http://www.southampton.ac.uk/medicine/research/themes.page?)

5) To submit the application for a research training fellowship in national competition to MRC, Wellcome Trust, Department of Health or a research charity such as Asthma UK or Action Research.

Description of research component of programme (up to 500 words):

The University department of Child Health has particular strengths in neonatal medicine (including neurodevelopment), respiratory paediatrics, endocrinology, growth and nutrition, paediatric neurosciences and paediatric immunology infectious diseases and welcomes applications from individuals with complementary research interests.

**Neonatal Medicine Research**
University Child Health has a strong translational research base in neonatal medicine (Prof H Clark) which focuses on applying our internationally recognised expertise in lung surfactant biology to optimise treatment strategies for premature infants with RDS (Prof Clark, Prof Postle) and a parallel programme of research to optimise neonatal nutrition in preterm infants (Dr A Leaf) and improve growth, respiratory and neurodevelopmental outcomes (Dr Vollmer).

**Nutrition Research**
The theme of improving paediatric growth and nutrition through the life-course forms part of the National Institute of Health Research Biomedical Research Centre (Nutrition) which with the Southampton Institute of Human Nutrition (Prof AA Jackson) has a translational research programme in optimising nutrition in neonates, critically ill children and children with inflammatory bowel disease (Dr M Beattie) and translational studies in paediatric endocrinology focussing on bone growth and hormonal influences on growth and development (Dr Justin Davies).

**Paediatric Respiratory Research**
The department has an established portfolio of basic science, epidemiological and translational paediatric respiratory research. The early life origins of asthma and atopy is a particular focus of research (Prof Graham Roberts, Dr Jane Lucas, Dr Judith Holloway), with collaborators in MRC, ERC, David Hide Centre, Isle Of Wight and Eruprevall. Translational research in respiratory medicine, primarily focussed within the National Institute of Health Research Respiratory Biomedical Research Unit includes research into surfactant in
neonatal lung disease and paediatric acute lung injury (Prof Clark, Prof Postle, Dr Michael Marsh), cystic fibrosis and infection (Dr Gary Connett, Dr Julian Legg, Prof Saul Faust) and in inflammation, asthma and allergy (Prof Graham Roberts, Dr Jane Lucas). The primary ciliary dyskinesia research team (Dr Jane Lucas) has a focus on nitric oxide in the ciliated epithelium. There are strong links across the university NHS boundary and the NHS respiratory and allergy consultants are all research active.

The basic science programme of the lung surfactant biology group (Prof Clark, Prof Postle) focuses on studies of phospholipid turnover and metabolism by direct stable isotope in vivo labelling, investigation of surfactant protein structure/function relationships, development of recombinant surfactant proteins for the next generation of surfactant therapy and investigation of the role of surfactant in innate immunity. These studies involve a range of state of the art techniques in molecular biology, mass spectrometry, tissue culture, in vivo animal models (transgenics) and ex vivo models of human disease to probe questions relating to respiratory, nutritional and neurodevelopmental outcomes in sick infants and children.

Clinical infectious diseases, microbiology & biofilms and immunology
Southampton is a member of the UK paediatric vaccine group and collaborates in the design and delivery of national and international trials in paediatric and adult vaccines, and in clinical trials in paediatric infectious diseases. Since 2006, microbiology and clinical infection research has integrated across the University, Trust and on-site Health Protection Agency South East Regional Laboratory, providing a unique environment for translational infection research (Prof S Faust, Dr S Clarke). The Biofilm and Microbial Communities research group (Prof S Faust, Dr S Clarke, Dr J Webb) applies cross-faculty research linking basic science and clinical translational research in infection. S Clarke (UoS/HPA) leads a programme of research in molecular microbiology/epidemiology aimed at informing paediatric vaccine design and policy. Translational immunology research (Dr A Williams, Prof S Faust) currently links paediatric and adult immunology clinics to investigate novel defects in innate immunity in families or individuals with undefined primary immunodeficiency and in bronchiectasis of unknown origin.

Paediatric and Neonatal Neurology Research
Clinical Neurosciences research, within Infection, Inflammation and Immunity, includes the following research streams:
Language development and the effect of early intervention in children with permanent hearing impairment (Prof Colin Kennedy)
Quality of survival following childhood brain tumours (CK)
Collaborative research with the neonatal service regarding predictive value of imaging in babies that are premature or following birth asphyxia (Dr Brigitte Vollmer), neurodevelopmental outcome following perinatal brain injury (BV) and neurological aspects of fetal medicine (BV)
The role of systemic inflammation in neurological disorders of childhood (BV with Prof Hugh Perry)
Sleepmedicine as applied to children (Dr Cathy Hill)
Randomised controlled trials of respiratory support and nutritional interventions to prevent cognitive morbidity in sickle cell disease in East Africa as well as the UK (Prof Fenella Kirkham)
Collaborative research with the Developmental Brain and Behaviour Link in the School of Psychology (CK& BV with Prof Edmund Sonuga-Barke, Dr Jana Kreppner, Dr Christina
Description of clinical component of programme (up to 500 words):

All trainees will rotate between district hospitals in the Region and the regional centre in Southampton. Each posting is for a 6-12 month period with commencement dates in March and September in keeping with the National Grid Programme for sub-specialist training and the commencement dates of paediatric rotations in most other Deaneries. Rotations typically occur as follows:

ST1 – Trainees typically spend 6 months in a general paediatric posting and 6 months in a busy neonatal unit.

ST2 – Most trainees spend this year in University Hospital Southampton NHS Foundation Trust where they gain exposure to some of the paediatric specialties including respiratory, allergy and infectious diseases, gastroenterology, endocrinology, neurology, oncology, nephrology, paediatric surgery including urology, paediatric cardiology and paediatric intensive care. There is a community paediatric training programme that operates during this year.

ST3 – Depending on their competencies, trainees might spending a further 6 months in neonatology at one of the level 3 units, 6 months in PICU or 6 months in a district general hospital supporting a middle grade rota.

ST4-5 – Trainees generally spend this time in one area of Wessex working at a middle grade level. They will complete within this time a combination of 6 months general paediatrics, 6 months community paediatrics and 6 months neonatal intensive care and 6 months PICU depending on competencies and career aims.

ST6-8 – Completion of training is tailored according to the needs of individual trainees. Those looking towards a CCT in general paediatrics with an interest generally spend at least a year in one of Southampton’s paediatric specialty posts. The final year is generally spent in a DGH setting where the trainee is expected to function at a more senior level within the department.

Specific support provided to trainee

Throughout the 3 years, the academic fellow will undertake generic research training as well as specialist research training in the chosen area. If this is in respiratory medicine the input comes from Professor Graham Roberts and Dr Jane Lucas, Senior Lecturers, with clinical consultants Dr Gary Connett, Dr Julian Legg and Dr Hazel Evans. In infectious diseases/immology/paediatric intensive care it will be under the supervision of Prof Saul Faust and relevant supervisors from PICU and University (Dr Tony Williams, Reader in Clinical Immunology) or NHS Microbiology and the Health Protection Agency (Reader in Health Protection Dr Stuart Clarke). In primary ciliary dyskinesia it will be Dr Jane Lucas with additional support from Professor Graham Roberts and Prof Saul Faust. In neonatal medicine it will be under the supervision of Professor Howard Clark or Dr Alison Leaf. In gastroenterology, the clinical research input will come from Dr Mark Beattie with additional academic oversight from Prof Tony Postle, Dr Steve Wooten and Professor Alan Jackson. In neurology/sleep medicine the input will be from Prof Colin Kennedy, Prof Fenella Kirkham.
and Dr Cathy Hill, Senior Lecturer. Finally in Oncology, there is the opportunity to join the cancer sciences research team in collaboration with the paediatric oncologists Dr Juliet Gray, Senior Lecturer.

The exact orientation of the specialist training will depend on the chosen specialty of the trainee. Full in- and out-patient facilities in the specialist area are available within Southampton University Hospitals Trust Child Health Directorate.

Milestones and timing of achievement of academic and clinical competencies

The following milestones will be applied:

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The passing of the MRCPCH examination is also a requisite of trainees by the end of ST3.
How post links in to the NIHR approved Research Training Programme at your locality:

It is expected that the successful fellowship application will lead to 3 years in full time clinical research leading to a PhD. This would provide a natural progression to a lectureship within the Faculty of Medicine. However, if the clinical fellowship funding was not forthcoming the trainee could return to the child health specialist training programme within the Wessex rotation to complete higher specialist training.

Trainee centredness:

The training will be centred on the trainee’s own needs, identified early during the first year, and there will be dedicated supervision during the post. The fellowship will be tailored towards achievement of successful external funding.

Quality assurance of the programme:

These posts are offered as part of the national expansion and formalisation of a training programme for academic clinical medicine. The postholder will be awarded an NTN(A). Academic clinical fellows who do not achieve funding to pursue a higher degree will be able to re-enter clinical training in the region at the appropriate stage.

Quality assurance is overseen through the Postgraduate Faculty and involves a rigorous programme scrutinised by the University of Southampton. Much of this is provided via accredited masters modules all of which have undergone quality assurance through the QAA process. The academic supervisors have all completed postgraduate research supervision training provided by the University and Faculty of Medicine. The Wessex Specialist Training Programme in Child Health has been running successfully for 8 years and has incorporated all the major NHS Trusts within the region. The posts in Southampton have provided specialist training in many disciplines. In addition to those mentioned within this application there is also Endocrinology with 2 consultants, Nephrology with 3 consultants, Neonatology with 4 consultants (and 2 more approved posts one of which may be academic) and Paediatric Surgery with 5 consultants. There is a large Paediatric Intensive Care Unit with 5 consultants and a very successful Paediatric Cardiology group with 4 consultants.

The organisation has been highly successful in generating research funding to support clinical fellowships which has led to 4 paediatric trainees acquiring PhD and 4 MD in the last 5 years. At the same time there have been numerous scientists who have done full time research within the Child Health group working in collaboration with an excellent team of postdoctoral research fellows, lecturers, senior lecturers and readers predominantly within the division of Infection Inflammation and Repair. There are currently 58 specialist registrar national training numbers in the region although at present there are 70 individuals in training because of the addition of flexible trainees. Over the 8 years that the specialist training programme has been in existence, 100% of the trainees have obtained senior clinical appointments. Over 90% have been appointed to the first job for which they applied. 14 in the last 5 years have been appointed to teaching hospital posts of which 5 have been to academic posts.

Mentoring Arrangements:

Mentorship is provided through the Faculty of Medicine which has set up a programme
Currently directed by a Reader in Infection Inflammation and Repair. Many members of the division have already had experience and training in mentorship and all the clinical academics in Child Health have experience and training in research supervision.

**Academic Lead (University) for the IAT Programme:**

Professor Eugene Healy  
Professor of Dermatology  
University of Southampton  
Southampton General Hospital  
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**Academic Supervisor (University) Details:**

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Professor Saul Faust  
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**Education Supervisor (Trust) Details:**

This will be confirmed once the appointee is in post as it will vary in each Trust

**Clinical Supervisor(s) Details:**

This will be confirmed once the appointee is in post as it will vary in each Trust

**Health Education England - Wessex Training Programme Director Details:**

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Confirmation that ACF posts attract an NTN(a):

This post will attract a NTN (A)