Job Description

NIHR Academic Clinical Fellowship

Infectious Diseases ST3 or ST4 – NIHR Prevention and Public Health Theme

The University of Sheffield, in partnership with NHS England North East and Yorkshire and the Sheffield Teaching Hospitals NHS Trust, has developed an exciting pathway for academic clinical training opportunities.

Applications are now invited for an Academic Clinical Fellowship in Infectious Diseases at ST3 Applications are now invited for an Academic Clinical Fellowship in Infectious Diseases at ST3 level or ST4 level.

- ST3 level in Infectious Diseases and Medical Microbiology or Infectious Diseases and Medical Virology.
- ST4 level in Infectious Diseases and General Internal Medicine..

This new post has been created as part of the NHS England North East and Yorkshire (NHSE)/National Institute for Health Research (NIHR) programme of Integrated Academic Training and offers candidates a comprehensive experience of clinical academic medicine working alongside internationally renowned clinicians and researchers.

We are seeking highly motivated, enthusiastic individuals with the potential to excel in both their clinical and academic training and who have the ambition to be the next generation of academic clinicians.

This Academic Clinical Fellowship (ACF) programme in Infectious Diseases will be run by the University of Sheffield, the Sheffield Teaching Hospitals NHS Trust and NHS England North East and Yorkshire.

Academic Clinical Fellowships (ACFs) are 3-year fixed-term national training posts. They attract an NTN(A) and trainees undertake 75% clinical and 25% academic training over the term of the post. They are employed by the NHS Trust and have an honorary contract with the University at whose Medical School their academic research is supported.

ACF trainees also undertake a Research Training Programme provided by the University, for which funding is provided by NIHR and is within the NIHR Prevention and Public Health Theme. They are also eligible for a £1,000 bursary each year to support research training activity (e.g., attending academic conferences).

ACF trainees will be supported to develop and submit an external funding application for a research training fellowship to enable them to complete a higher degree (PhD or research MD) following the completion of their ACF fixed-term post. If successful, this fellowship will be completed during Out-of-Programme Research (OOPR) time. As all Academic Clinical Fellowships are run-through posts, the successful applicant would be guaranteed continued

training to CCT, as long as they progress satisfactorily through both their academic and clinical training.

POST DETAILS

Job Title

NIHR Academic Clinical Fellow (ACF) – Infectious Diseases

Duration of the Post

Up to 3 years (25% academic, 75% clinical).

Lead NHS Hospital/Trust in which training will take place

South Yorkshire Regional Department of Infection and Tropical Medicine and Departments of Microbiology and Virology of Sheffield Teaching Hospitals NHS Foundation Trust

The post's clinical programme is based in hospitals in South Yorkshire, principally in the Departments of Microbiology and Virology and the South Yorkshire Regional Department of Infection and Tropical Medicine, all of Sheffield Teaching Hospitals NHS Foundation Trust (Chief Executive Kirsten Major) which includes the Royal Hallamshire Hospital (RHH), the Northern General Hospital (NGH) and Weston Park (oncology) Hospital (WPH), Sheffield

The Departments of Microbiology and Virology within the Directorate of Laboratory Medicine, comprising 10 NHS medical microbiology consultants, 1 academic consultant and 5 NHS clinical virology consultants based at NGH (including one joint ID/Virology consultant), who work across NGH, RHH and WPH. Three of the STH microbiology consultants work half their time at Sheffield Children's Hospital, providing additional cover there with the one consultant microbiologist based fully at Sheffield Children's Hospital (who participates in the on-call rota at STH). The laboratory at NGH processes samples from all 4 centres in addition to the considerable community workload. The clinical virology consultants also support the regional virology service and both departments are part of the South Yorkshire and Bassetlaw Integrated Care System Programme. There are very good links with Public Health Medicine (UKHSA).

The South Yorkshire Regional Department of Infection and Tropical Medicine, (SYRDITM), together with the Department of Genito-urinary Medicine, forms the Communicable Diseases Directorate. Communicable Diseases also form an academic directorate within the STH Academic Directorate of Specialised Medicine. The SYRDITM is one of the largest infectious disease units in the country and consists of 11 substantive NHS consultants and one specialty doctor, including joint posts with virology, acute medicine at STH, microbiology at the Royal Derbyshire and Rotherham District General Hospital and Sexual Health in Rotherham. In addition, 4 academic consultants participate in ward and outpatient activity in rotation throughout the year. Current trainees in the Department include 20 infectious disease specialty registrars, which include one academic clinical lecturer and three academic clinical fellows. All training places are joint appointments with a second specialty: ID/Microbiology ID/Virology or ID/GIM. At any one time, a number of trainees are on placement out-of-programme completing higher degrees or clinical leadership fellowships.

SYRDITM has close cooperative links with the Department of GU Medicine. HIV care is delivered locally by both specialities through the Stonegrove Centre and in connection with the South Yorkshire HIV network which involves regional GUM departments. In-patient HIV care is delivered jointly by ID specialists in the SYRDITM.

Major strengths of training in the SYRDITM include local expertise in community-acquired infection, tuberculosis, HIV, viral hepatitis, imported infections, infections in immunocompromised hosts, travel medicine, vaccines and clinical trials. The OPAT (outpatient parenteral antibiotics therapy) unit is one of the largest in the UK. The unit is one of five UK centres for High Consequence Infectious Diseases (HCID) management and a regional hub for hepatitis C and multi-drug resistant TB management. This is reflected by the numerous specialist clinics offered, active clinical trials, translational and basic science research programmes and representation and leadership on national and international platforms.

Medical staff.

Consultant Physicians in Infectious Diseases: Professor S Rowland-Jones, Dr B Stone (Clinical Lead), Dr J Greig, Dr A Tunbridge (Training Programme Director), Dr K Cartwright, Dr P Collini, Professor T de Silva, Dr T Darton, Dr R Foster, Dr D Cohen, Dr C Durojaiye, Dr J Aberdein, Dr J Cole, Dr T Locke, Dr L Mair.

Consultant Microbiologists: Dr H Parsons, Dr C Bates, Dr L Prtak, Dr R Townsend, Dr D Partridge, Dr G Morris, Dr G Wheldon, Dr E Boldock, Dr C Lynch, Dr R Payne. Dr S Atanze and Dr S Thompson.

Consultant Virologists: Dr A Cope, Dr M Raza, Dr C Evans, Dr M Ankcorn and Dr Anupama Mutagi.

Research institution in which training will take place

The Faculty of Health is one of the major UK centres for education and research in health and related subjects. With origins dating back to 1828, the Faculty has a long-standing tradition of excellence in clinical education and research.

Over 2,500 students study in the Faculty each year on over 40 different courses. In addition, over 200 students are registered on research degrees, supporting a Faculty research portfolio in excess of £30M.

Independent assessments of our teaching and research quality rate us as among the best in the UK.

With over 250 academic and clinical staff and 250 research associates, the Faculty has the training and development of staff at the centre of its strategic priorities. A tailored training programme - Think Ahead - in line with the Concordat to Support the Career Development of Researchers is available to all researchers in the Faculty. This includes an induction process; workshops linked to working-based learning opportunities; employer-led career days; and tailored support in preparation for the end of a contract. A newly developed career mentoring scheme with academic, industrial and alternative career strands gives practical support for career development in your chosen destination. The portfolio of transferable skills and career development courses is continuously updated and tailored to the researcher and the employer's needs and to fit with the strategic aims of the Faculty. For more information, email Lucy Lee (L.Lee@sheffield.ac.uk). For more information on the Faculty Health, please see https://www.sheffield.ac.uk/health

Division of Clinical Medicine in the School of Medicine and Population Health (SMPH)

Infection is a major research theme of the Division of Clinical Medicine. Researchers are clinical and non-clinical academics from infectious diseases, microbiology and respiratory medicine and, with academics in inflammation biology, form the core of the Infection and Immunity theme of the prestigious NIHR Sheffield Biomedical Research Centre (BRC), (a collaboration with Sheffield Teaching Hospitals NHS Foundation Trust), and the UoS cross-faculty Florey Institute.

The ACF post is hosted by the Clinical Infection Research Group (CIRG), a grouping of 6 consultant-level clinical infection academics and clinical/non-clinical early career researchers within Infection and Immunity in SMPH.

Our research employs cutting-edge techniques in in vitro and in vivo studies with a variety of pathogens performed across species ranging from fish to man. The research interests of the theme range from basic science to clinical infection and global health, with a particular focus on molecular and cellular pathogenesis, innate and acquired immunity and the prevention of disease through vaccination.

Pathogen-specific interests in *Streptococcus pyogenes*, *Staphylococcus aureus, Streptococcus pneumoniae* and *Salmonella typhi* biology, while clinical research focuses on translational projects exploring new vaccines and strategies to prevent infection and its bystander effects such as antimicrobial use and resistance (AMR), the development of hyperinflammatory syndromes and chronic organ dysfunction. One emerging theme is in the use of adjuvants, novel vaccine design and dose scheduling for optimal use of vaccines, including in hard-to-immunise groups such as those already immunocompromised by disease, treatment or age. We have a strong track record of respiratory virus research (influenza A and SARS-CoV-2, for example in investigating interactions with commensal bacterial and in regulating inflammation, sequencing variants and interrogating T cell immune responses); improved diagnostics based on host inflammation pathways (tuberculosis and typhoid diagnostics using mRNA), pathogen metagenomics and assessment of point of care testing (POC) in real life NHS settings; HIV infection - development and mitigation of chronic comorbidities associated with ageing (including the role of CMV co-infection), immune responses to infection and testing of potential immune-based therapies. Molecular microbiology focuses on bacterial signal transduction systems, regulation of glycosylation, secretion systems, induction of immune senescence and the identification of novel virulence determinants and vaccine targets.

The department is well equipped with laboratory space, facilities and technical staff, and all academics have access to in-house Oxford Nanopore sequencing capacity within the Division of Clinical Medicine and core facilities including, proteomics, expression analysis, confocal microscopy, multi-channel FACS, a category 3 laboratory, a clinical research facility, and mathematical/statistical support. Our work is supported by our £10M current funding portfolio: UKRI (MRC, BBSRC), charitable (Wellcome Trust, Gates Foundation), innovation and KE awards, and industry (GSK, Moderna, AstraZeneca).
Infection academics are highly research-active but also contribute substantially to the school's teaching activities. In addition to teaching Infectious Disease and Medical Microbiology to medical and dental students, members of the department teach in the Sheffield DTM&H and train and supervise clinical (BSc med res/MD/PhD) and non-clinical fellows and graduate students (PhD/MSc).

We provide a research training environment integrating clinical trials, clinical epidemiology, statistical modelling, human challenge studies, in vitro laboratory immunology, genomics and mechanistic studies. Trainees will undertake projects in applied research that aligns with the NIHRs Prevention and Public Health theme, including biomarker discovery and implementation, vaccine and monoclonal antibody development, immunisation optimisation that could include, but are not limited to;

- Investigating human immune responses to *Staphylococcus aureus* skin infection to accelerate vaccine development using controlled human models of skin infection and nasal carriage, to identify early host-response interactions and explore correlates of protection. Specific projects include characterising the impact of the microbiome on infection, investigating immune responses to S. aureus infection, studying bacterial regulation of invasion and virulence determinants.
- Multisite evaluation of functional genomic signatures for the accurate diagnosis of acute undifferentiated fever. Specific projects include analysing inflammatory and innate immune responses to causes of fever including dengue, malaria, typhoid, rickettsial infection, and

characterising the clinical presentations by aetiology and outcome across populations in Africa and Asia.

- Immune Memory and Mechanisms of Protection from Vaccines Consortium . Focus on mechanistic understanding of induction and maintenance of broad protective memory responses. Specific projects include characterisation of how priming exposure affects long-term phenotype and durability of antiviral immunity, and how immunodeficiency impacts the antiviral immune response at a single cell level.
- SARS-CoV-2 vaccine immunity in Zimbabweans with HIV and other comorbidities. Future projects using this platform will involve exploring how chronic co-morbidities shape the non-neutralising effector antibody response to infections, working with collaborators in Zimbabwe and Australia.
- Characterising the risk of respiratory viruses in clinically vulnerable and immunocompromised patients. Collaboration between UoS and UK Health Security Agency. Inter-disciplinary work between CIRG and ScHARR. Data will provide evidence for future vaccine policy. Specific projects using this platform will include estimating disease burden and vaccine uptake nationally in specific high-risk groups, along with cost-effectiveness modelling.
- Defining correlates of protection for Group A Streptococcus. Developing immunoassays to aid vaccine development and use in two human challenge studies (Gambia/Australia). Immunology work for Gambia study led by UoS. Projects embedded within this programme of work will be exploring protective mucosal responses to Group A Streptococcus at a single cell level, and the use of phage immune-precipitation to define protective antibody epitopes in the mucosa.

Key Personnel of the Infection Theme and Division of Clinical Medicine

Professor Stephen Renshaw	Head of Division of Clinical Medicine
Professor Sarah Rowland-Jones	Infection Theme lead and Florey Professor of Infectious Diseases & Immunology, Honorary Consultant in Infectious Diseases
Dr Paul Collini	Lead for Academic Training and Senior Clinical Lecturer & Honorary Consultant Infectious Diseases
Professor Thushan de Silva	Professor & Honorary Consultant Infectious Diseases
Dr Thomas Darton	Senior Clinical Lecturer & Honorary Consultant Infectious Diseases Senior Clinical Lecturer in Infectious Diseases and Microbiology
Dr Ruth Payne	Senior Clinical Lecturer in Infectious Diseases and MIcrobiology Consultant Microbiologist
Dr Gillian Tomlinson	Senior Lecturer in Respiratory Medicine and Honorary Consultant in Respiratory Medicine
Dr Vivak Parkash	Academic Clinical Lecturer and Registrar in Infectious Diseases

Academic Clinical Fellowship Training Programme

Objectives of the Training Programme

1. To continue clinical training in infectious diseases with a second specialty from ST3 level.
2. To undertake the NIHR Research Training Programme in research methodology through MRes-level modules.

3. To identify an area of academic and clinical interest in infection that aligns with the infection and immunity theme of the Division of Clinical Medicine upon which to base an application for an externally-funded PhD/MD application (or post-doctoral training fellowship if already holding a PhD).

Relationship between Academic and Clinical Training

The clinical programme is designed to provide training from ST3 or ST4 level through to the completion of CCT. In the first two years, the successful candidate will rotate through the departments of infectious diseases, microbiology and virology to complete 'Core Infection Training'. During the first 3 years of the ACF programme, the candidate will conduct a 9-month research attachment, during which time there is no out-of-hours on-call commitment. After progression to Higher Specialist Training, time will be split between ID and the second speciality: microbiology or virology.

All components of the core infection training are based at STH on either the Royal Hallamshire or Northern General sites; occasionally internal medicine attachments are undertaken in other hospitals in South Yorkshire and microbiology/virology training posts will also be completed at the Sheffield Children's Hospital.

Academic trainees will be based in the Division of Clinical Medicine infection teams' offices on K/L floor of the Royal Hallamshire Hospital tower block. Laboratory facilities and the STH Clinical Research Facility are located nearby. Additional work or projects may be undertaken in other university departments including the Department of Molecular Biology and Biotechnology based in Firth Court on Western Bank.

Research Protected Time:

MAIN ACTIVITIES & RESPONSIBILITIES:

This is a 3-year full-time training post carrying an NTN(A) in Infectious Diseases, with run-through to completion of CCT.

The successful applicant will have evidence of academic achievement and ideally have research experience and an intercalated BSc. They should be aiming to pursue a career in academic infectious diseases.

Research Component

The successful candidate will be expected to develop an area of research interest that aligns with that of the infection theme of the Division of Clinical Medicine and apply for a research training fellowship during the course of this post. This will be done in consultation with Dr Paul Collini and colleagues. The post holder will join the clinical infection research group (CIRG) of senior clinical academics in infection, the existing NIHR academic clinical lecturer and three academic clinical fellows, post-doctoral research associates, PhD and MSc students and a technical team.

Report to: Dr Paul Collini and chosen academic supervisors.

Successful candidates:

The exit from this post will typically be to an externally funded research fellowship, leading to the award of a PhD and subsequent application, either for an academic clinical lecturer post and/or a Clinician Scientist Fellowship.

Unsuccessful candidates:

If the post-holder does not achieve the expected clinical competencies, this will be handled in the same way as for all other trainees in speciality medicine.

If the post-holder is unsuccessful in obtaining research funding (or fails to achieve academic competencies), they would be expected to return to a clinical training post. This will be discussed in good time with the Training Programme Director for Infectious Diseases through the system for appraisal and mentoring of academic trainees. Whilst no guarantee of an appropriate post is possible, every effort will be made to accommodate such individuals within the local training schemes.

Clinical Component

The specialty of Infectious Diseases provides the opportunity for a career including challenging and constantly varied clinical scenarios to intellectually stimulating research into diseases of major global significance. Training in this specialty has the advantages of a clearly objective-based curriculum and offers dual programmes in Infectious Diseases combined with training in Medical Microbiology or Virology. Additional training is included as appropriate in Genitourinary Medicine and Public Health Medicine.

The essential (generic) training tracks in the curriculum are designed to produce competency in:

- Community-acquired infection and its management,
- Geographic and travel medicine,
- The management of immunocompromised patients including HIV/AIDS,
- Antimicrobial therapy,
- Management of hospital-acquired infection, including infection in the Intensive / High dependency setting,
- Understanding of the role of microbiology services in the management of infection,
- Research methodology and its application to clinical practice,
- Various optional subjects such as virology, clinical pharmacology, public health, epidemiology, vaccinology and international work.

The challenge to rationalise antimicrobial use in the light of increasing resistance, to combat clinical problems of healthcare-acquired infection and worldwide pandemics of HIV, hepatitis and malaria and to respond to emerging infection problems such as MERS-CoV, and epidemics of infections like Ebola make infectious diseases an exciting and ever-changing specialty central to maintaining good local, national, global and planetary health.

Teaching

The post holder will contribute to the undergraduate and postgraduate teaching programmes of the University of Sheffield Faculty of Medicine, Dentistry & Health and will also be involved with the assessment of students and have personal mentoring responsibilities for a small group of students on the MBChB programme.

Accommodation and support for the post

Office space will be made available within the academic department. Laboratory space will be made available as required.

CONTACTS

Academic Leads and Contacts

Academic Lead for Infectious Diseases:

Dr Paul Collini
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School of Medicine and Population Health

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Director of Clinical Academic Training, Sheffield Medical School & South Yorkshire and Humber Deanery:
Professor Janet Brown
Professor of Translational Medical Oncology and Honorary Consultant in Medical Oncology
j.e.brown@sheffield.ac.uk

Deputy Head of School (South):

Dr Trevor Rogers

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Training Programme Director, Infectious Diseases (clinical):

Dr Anne Tunbridge,
anne.tunbridge1@nhs.net

Training Programme Director, Medical Microbiology/Virology (clinical):

Dr Laura Prtak

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Further Information

Because of the nature of the work for which you are applying, this post is exempt from the provisions of Section 4 (2) of the Rehabilitation of Offenders Act 1974 by virtue of the Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975.

Applicants are, therefore, not entitled to withhold information about convictions, which for other purposes are "spent" under the provisions of the Act, and in the event of employment, any failure to disclose such convictions could result in dismissal or disciplinary action by the University. Any information given will be strictly confidential and will be considered only in relation to an application for positions to which the Order applies.

For further information about the Academic Clinical Fellowship programme, please refer to the NIHR (National Institute for Health Research) page https://www.nihr.ac.uk/career-development/research-career-funding-programmes/predoctoral/academic-clinical-fellowship

Person Specifications

Applicants for this post will be required to meet the relevant Clinical eligibility criteria for the appropriate specialty and level listed at:-

Please note - (applicants applying for Surgical, Medical or Psychiatry specialties at ST3 or above may be required to consult the relevant Core Training person specification):-

https://medical.hee.nhs.uk/medical-training-recruitment/medical-specialty-training/overview-of-specialty-training/eligibility

AND the Academic eligibility criteria listed at:

https://medical.hee.nhs.uk/medical-training-recruitment/medical-specialty-training/academic-recruitment