



Post-doctoral Scientist in Microbiome in Advanced Chronic Liver Disease (Ref: RS46)

Job Description

Post title:	Post-doctoral Scientist
Salary range:	£36,016 - £38,480 (including London Allowance)
Location:	The Roger Williams Institute of Hepatology Foundation for Liver Research, 111 Coldharbour Lane, London, SE5 9NT
Responsible to:	Dr Vishal Patel, Principal Investigator Microbiome in Advanced Chronic Liver Disease Group
Duration:	The post will be funded for 2 years

Closing date for applications: 5pm Friday 20th August 2021

Background:

The post holder will join an existing research group within The Roger Williams Institute of Hepatology (IoH) which is owned and core funded by the Foundation for Liver Research (FLR) (RCN1134579).

The successful applicant will participate in research projects that seek to investigate the role of the microbiome in contributing to pathophysiological processes that drive advanced chronic liver disease (ACLD). ACLD is characterised in patients with cirrhosis by the onset of decompensating complications, such as variceal bleeding, ascites, infections and hepatic encephalopathy, and acute-on-chronic liver failure (ACLF) where multi-organ failure occurs. ACLD causes high short-term mortality and places a significant burden on critical care and healthcare resources. The pathobiology of ACLD – in particular the role of the microbiome – remains incompletely understood although gut barrier dysfunction, intestinal inflammation and microbial translocation are implicated. There are currently no targeted therapies for this condition. Patients with ACLD and ACLF are often treated with broad-spectrum antibiotics in an untargeted manner, which in part has led to an escalating risk of development of antimicrobial resistance (AMR). The gut microbiome and related AMR gene repertoire known as the 'resistome' are thought to play an important role in the development of AMR infections in cirrhosis.

We are seeking an enthusiastic, flexible and committed scientist to explore the role of the oral and gut microbiome in ACLD, and the mechanisms that drive AMR development. Linked to this is the question of how host intestinal function and mucosal and systemic immuno-metabolism are affected. This will involve the use of unique, patient-derived samples obtained from the Liver Unit at King's College Hospital with ongoing cataloging of a substantial study repository led by the PI. There may be additional opportunities to explore the utility of novel therapeutics to manipulate the microbiome *via* clinical trials and novel rapid diagnostics in relation to infection development in ACLD.

Applications are invited from postdoctoral scientists with a proven scientific interest and publication track record in this area. The post holder will be required to proactively design and run experiments; record, analyse and publish in high impact peer reviewed journals, and participate in educational programmes within the Institute.

Person Specification:

Essential skills:-

- PhD in oral/gut microbiome or related discipline
- Familiar with microbiome interrogation and sequencing techniques
- Experience of working with, processing and analysing next-generation sequencing data
- Hands on experience with cell-culture and molecular biology techniques
- Laboratory-based research experience in DNA, RNA and protein assays including extraction technique optimisation
- Excellent organisation skills and the ability to work independently
- Good publication record in leading peer-reviewed journals
- Ability to prepare data for publication including statistical analysis
- Experience of cross-discipline collaboration
- Proven ability to work with colleagues and initiate multi-disciplinary projects
- Ability to present research findings at internal, national and international meetings
- Good interpersonal skills that demonstrate the ability to establish and maintain effective working relationships with students, staff, peers and management
- Commitment to Health and Safety
- Excellent communication skills in English
- Experience of supervising/training junior staff or students

Desirable skills:-

- Multi-parametric flow cytometry
- Multi-plex cytokine analysis
- Transwell co-culture assays
- Previous experience in preparation and submission of research grants
- Experience of working to GCP and familiarity with the HTA would also be an advantage.

The appointee will be expected:-

- To design, set-up and run experiments in relation to the project after consultation with the Principal Investigator to effectively record, analyse, acquire and write-up results
- To independently process human clinical samples in accordance with standard operating protocols
- To perform laboratory-based assays on biological samples from patients with chronic liver failure syndromes
- To contribute to processing and cryopreservation of biological samples, including liver specimens, from patients with acute and chronic liver disease.
- To isolate and cryopreserve peripheral blood mononuclear cells by density grade centrifugation.
- To liaise, assist and interact with group members to perform and optimise laboratory-based assays including setting up experiments and preparing reagents.
- Contribute to internal meetings and external national and international hepatology meetings.
- First draft manuscript write-up of methodology and results for publications
- Contribute to the preparation and drafting of research bids and proposals.
- Provide training, support and advice to graduates, research technicians and associates.
- Participate in collaborative research projects.
- Undertake GCP and HTA training to facilitate appropriate interaction with hospital staff and patient participants from who research samples are derived
- Publish research findings in peer-reviewed international journals
- Contribute to overall activities of the Institute
- Any other duties commensurate with the grading of the post as required by the Principal Investigator, Chief Scientific Officer and Director

The post is funded for an initial period of two years. As part of the appointment in the IoH, the appointee will be nominated for a visiting contract with King's College London.

Informal enquiries should be made to:

Dr Vishal Patel vishal.patel@researchinliver.org.uk

Principal Investigator - Microbiome in Advanced Chronic Liver Disease Group
Foundation for Liver Research.

To apply for this post please send a 1-page covering letter explaining your background and suitability for our team, together with a detailed CV describing your research experience to date and including names and contact details of two referees, one of whom is the current/most recent employer, to:

Natalie Day, Chief Executive

n.day@researchinliver.org.uk

Institute of Hepatology, London

111 Coldharbour Lane, London SE5 9NT

Please quote Job Ref: RS46

In the event that you are invited for interview we will contact you by email confirming the arrangements. At interview candidates will be expected to give a short presentation summarising their research achievements to date and outlining possible research directions.